

THE AUTOMOBILE

LIBRARY OF
CONGRESS
WEEKLY

NEW YORK — SATURDAY, MAY 23, 1903 — CHICAGO

10 CENTS

Automobiles on the Speedway.

Invasion of the Exclusive Domain of the Trotting Horse in New York by the Congressional Committee on Rivers and Harbors in Motor Cars.

A VERY unusual sight was witnessed in the upper end of New York a few days ago, when the automobilists invaded the hitherto sacred precincts of the Speedway along the Harlem River. This famous stretch of beautifully kept road was built exclusively for the use of drivers of light horse vehicles, and has

become famous throughout the country as a driving course on which many of the finest roadsters in the country are tried out on fine days.

The accompanying photograph was taken when the Congressional committee on Rivers and Harbors made a trip along the Speedway, in the course of an inspection

of the various points of interest in the upper end of New York. This photograph is really of historic interest, as this is the first occasion on which automobiles were admitted on this famous drive. The trip of the committee to New York was made for the purpose of inspecting the waterways in the upper end of the city.



PROCESSION OF AUTOMOBILES CARRYING MEMBERS OF CONGRESS ALONG THE HARLEM RIVER, NEW YORK.

There were more than one hundred members in the party that made the automobile trip, and about two score machines were in line.

The Speedway is about two miles long, and in this distance there is a perfect straightaway course of less than one mile, in which the most exciting contests occur when the horse drivers attend in friendly rivalry.

Rates of Speed.

In some recent automobile legislation the rate of speed allowed is not stated in terms of miles per hour, but is based on the time occupied in traveling a distance of one mile. Why this unusual and really impossible system of speed estimation has been adopted is not disclosed in any foot note to a bill, but it exists and it is therefore of some interest to consider how the law can be obeyed in the letter as well as the spirit. For this purpose we print a short table giving the familiar rates of speed in miles per hour, with their equivalents in the new system. The table follows:

Miles per Hour	Distances and Elapsed Time		
6.....	1 mile in 10 min.		
8.....	1 " " 7 "	30 sec.	
10.....	1 " " 6 "		
12.....	1 " " 5 "		
15.....	1 " " 4 "		
18.....	1 " " 3 "	20 sec.	
20.....	1 " " 3 "		
25.....	1 " " 2 "	24 sec.	
30.....	1 " " 2 "		
35.....	1 " " 1 "	43 sec.	
40.....	1 " " 1 "	30 "	

Were all country roads plainly marked with mile stones there would be some excuse for the enactment of a regulation based on the time occupied in passing between such marks. As it is now a motorist on the highway has no means of knowing when he has traveled a mile with anything like accuracy unless he uses the old system and carries the new in memorandum form for reference. It is an ingrown habit with all travelers, whether afoot, riding or driving, to estimate speed at so many miles an hour, and a very close guess can be made at all ordinary and familiar speeds by any person of intelligence. At the higher speeds the rapidity of travel is not easily guessed, chiefly because of want of familiarity with such speeds in every day life. When a motorist does not know how fast he is going he can usually be satisfied that he is exceeding the legal limits.

Has Its Disadvantages.

"Still," she said, sighing, "the automobile has its faults."

"Yes," he replied, regretfully, tightening one hand on the steering wheel and placing the other on the brake lever.

And just then another young couple in a buggy passed them in the moonlight, the young man holding the lines of the gentle old horse with one hand.

Diagnosing Gas Engine Ills.

I.—The Mixture.

There are few moments when the feeling of helplessness before the great forces of nature is as complete as that of the novice, when, after he has conned with the patience of a devotee his little booklet on "How to Start the Motor" and "What to Do When the Motor Fails to Start," he primes his carbureter for the thirtieth time, sets his spark and gas levers at "slow," and turns the crank—and nothing happens. In such a case, with the perspiration filling his eyes with salty moisture and bedewing the thirsty soil beneath, and his promised cooling spin dwindling from hours to a matter of minutes, with a subtle hint of pneumonia to follow, that man is courageous indeed whose enthusiasm does not dissolve into atrabilious despair and to whom "this goodly frame, the Earth," wears not the aspect of a promontory more sterile than his own vain battles with his runless auto. If such situations were as common to-day as five years ago—if carbureter, igniter and valves had as many hidden ways now as then of deviating from the straight path of rectitude—it is tolerably certain that the gasoline vehicle would find few enthusiasts with patience to master its eccentricities and time to humor them; and the lack of enthusiasm of the man in the street, when Harry Scooterbilt in the "Green Demon" makes him hustle for the sidewalk, would be neither sharpened by envy nor tempered by the hope that he might some day himself possess a "demon" wherewith to give Harry a run for his money.

Happily for the future of automobiling, means have been found for reducing the action of the more vital organs to mechanical, and therefore exact, terms, so that even in the hands of the novice they can hardly work but in one way, and that the right way; or, if they fail to do so, they will indicate the cause by some visible sign that requires no guessing to identify. The story is a trite one to the experienced chauffeur, but it will bear re-telling for the novice; and to him, therefore, is addressed the following brief outline of principles, by understanding which he may hope to analyze for himself the behavior of his motor and the reasons for it.

IGNITION OF THE CHARGE.

To effect ignition of the charge in a gas engine, only one thing is actually essential: the charge must have somewhere near the correct proportion of gas or vapor to air, in that part of it next to the igniter. With that condition fulfilled, and a good spark, ignition is absolutely certain. There are, however, other factors which enter in, if the spark is not quite up to par, which may help or hinder ignition in considerable degree. A hot mixture, other things being equal, will ignite

better than a cold one. With a given size of spark, a poor mixture (too lean or too rich) may ignite under compression, but not before. With a poor mixture at a given pressure, a hot "fat" spark will often be effective when a thin blue one is not. As the mixture is generally imperfect when starting, and the engine is cold, a good spark is especially desirable then. If the current comes from a primary battery, this is usually the case, as the calls have recuperated more or less by rest. The storage battery usually gives a fat spark until nearly exhausted; but if a dynamo or magneto is relied on for current it is usually necessary, and always well, to provide a battery for starting and emergencies.

AFTER IGNITION TAKES PLACE.

When the charge is ignited, the propagation of flame is not instantaneous, and its duration will depend mainly on four things: on correct proportions of air and gas, on intimate mixture of these two, and on their compression and temperature. The size of the spark often seems to affect the result, and a good spark, not so hot as to burn the points of the plug or the electrode contacts, is always desirable.

These few principles cover everything on the chemical side of the gas engine's action, and are first to be considered because the internal combustion engine is first of all a chemical piece of apparatus. All its mechanism is simply for the purpose of converting its chemical (thermodynamic) energy into mechanical energy, or for the purpose of regulating and controlling the chemical action. Let us examine now the practical application of these chemical principles just laid down.

TAKE NOTHING FOR GRANTED.

To begin with, nothing whatever is to be taken for granted regarding the mixture or the spark. If the charge gets into the cylinder, and the explosion does not come when directions are followed, it is always because the mixture is wrong, or because the spark is too weak or absent. Taking the mixture first, we note that a low grade of gasoline will make a weak mixture, a high grade a rich one, if the vaporizer is adjusted alike for both. If the gasoline has stood for some time in the tank, its lighter constituents have probably evaporated and left it "stale" or heavy. Some kinds of carbureters will let the gasoline in them evaporate in the same way. Fresh gasoline is the remedy, and a densimeter should be used to test it. Stove gasoline, testing 76 degrees Beaumé, is that most used. If the grade is changed, the air or gasoline inlets of the carbureter may be altered to suit, being careful not to change them till the engine

is running, and then to change only one at a time, lest the correct adjustment be lost and much time be spent finding it again. It is almost impossible to start a motor with the carbureter badly out of adjustment, and it is likewise impossible to find the correct adjustment till the motor is started. Hence the caution.

If the motor does not balk altogether on a poor mixture, it will often run slowly, skipping alternate explosions, due to the fact that a poor mixture will not burn when further diluted by the residual burnt gases from the previous explosion. This is, in fact, a characteristic symptom, and if it occurs with the motor under load it calls for immediate readjustment of the carbureter. If the exhaust has an acrid smell and a thin blue smoke, the mixture is too rich. If the smoke is black, the mixture is excessively rich. A white or yellow smoke indicates too much cylinder oil, which will soon foul the igniters if not reduced.

ADJUSTMENT OF CARBURETERS.

With most carbureters, adjustment is best effected with a wide-open throttle, assuming that to be the commonest running condition, and with the spark retarded as far as possible to keep the motor from "running away." This implies, what is usually the case, that the quality of the mixture varies somewhat with the opening of the throttle. Often a motor with its carbureter thus adjusted will skip alternate explosions when running light with a close throttle; but this is not of much importance.

Occasionally, but not often, water will get into the gasoline, and make endless trouble till removed. This is best done by opening the drain-out tap or plug at the bottom of the carbureter, and drawing off the liquid till only gasoline comes. A more frequent intruder is dirt, which may be cleaned out, usually, in the same way, but which should be excluded as far as possible from the tank by straining. The effect of dirt in the float valve will be to flood the carbureter, while in the needle valve it will clog and stop the engine. As most carbureters are made with a drip orifice, the flooding is not serious except as it wastes gasoline, but it may make so rich a mixture as to compel temporary readjustment till it is corrected, which should be as soon as possible, by opening and cleaning the carbureter.

TEST THE COMPRESSION.

If the impulses are regular, but weak, the trouble may be due to poor compression or to some wholly fortuitous external cause, such as clogging of the mixture pipe by some foreign body, or of the exhaust pipe or muffler by half-burnt oil. Test the compression by pulling the crank over slowly against it. The leakage should be quite slow, and confined wholly to the piston rings. If it is rapid, the inlet valve may be bent or may be pre-

vented by dirt from closing. Take it out and clean both valve and seat with gasoline. If it is bent, the appearance of the seat will indicate it. More probably, however, the exhaust valve is the leaky one, particularly if the engine has been allowed to overheat through failure of the circulation. If it needs regrinding, follow the maker's directions, using fine emery and oil, and rubbing to a dead, not a bright, surface. Occasionally a valve spring will break, or a valve stem key, in such a way as to allow the valve to work sluggishly. Usually, however, such an accident puts that cylinder out of business. More frequently a spring will weaken, through heat or otherwise, and move its valve too sluggishly. This will be indicated by perfect working at a low speed, with loss of power at high speed; also, if it is an inlet valve spring, by marked back-puffing from the carbureter.

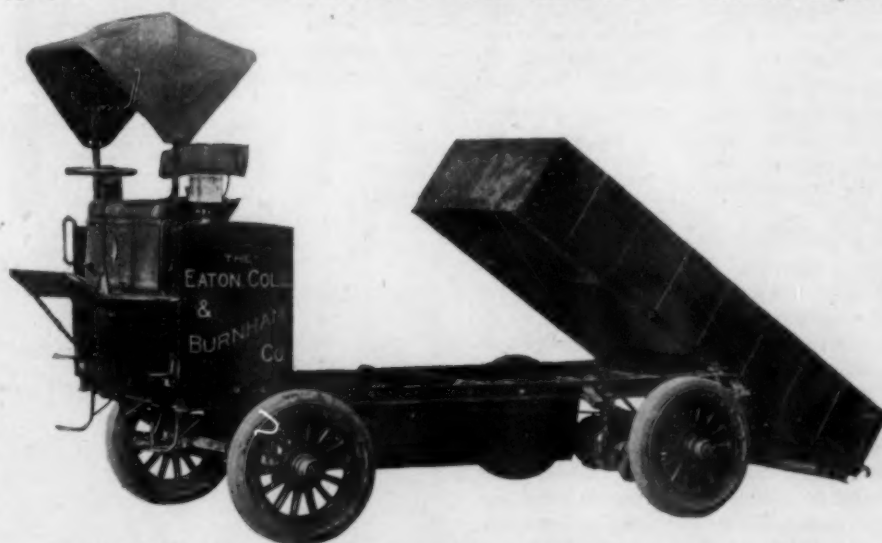
Electric Dumping Truck.

A four-ton electric dumping truck recently completed for the Eaton, Cole & Burnham Co., of Bridgeport, Conn., is typical of a class of commercial vehicles

wooden drum by a crank provided for the purpose, the body can be run either forward or back, dumping the load by its own weight. Hooks retain the body in place normally. The tailboard can be unshipped for loading or unloading.

Two trucks, built on the same general plan as the foregoing but of lesser capacity, have for some time been in use by the Germania Roofing Co., of New York, and the Hudson Coal Co., of New York, has ordered several. In one now under construction for the coal company the body does not slide to the rear, but dumps through being thrust up in front by a motor-driven arm, thus making practicable the use of chutes for discharging the load.

The frame of the truck here shown is a plain rectangle built up of two channel-iron side bars riveted to seven equally-spaced cross members. It is designed on the Gibbs patent pedestal system, the distinguishing features of which are the absence of reaches and the mounting of each axle in a pair of downwardly-extending pedestals, as in locomotive and street railway practice. By the rigidity of these members of the frame, the axles are kept from fore-and-aft or sidewise displace-



FOUR-TON ELECTRIC DUMPING TRUCK USED FOR BULK HAULAGE.

that is becoming established as a standard pattern for certain classes of heavy haulage in cities.

The owners of the truck, shown herewith, who operate one of the largest brass foundries in the country, are using it for the transport of coal, sand, quantities of small castings, etc., between their works and local railway stations.

The dumping mechanism presents several features of interest. The sheet-iron body of the truck is so mounted that it can be slid rearwardly until it tilts over the back of the frame. To effect this movement an endless wire cable is carried along each side of the vehicle, passing over rollers at the rear and a 6-inch wooden drum in front. These cables are attached to the body at a point about midway of its length. Thus, by turning the

ment, while the up-and-down movement of the vehicle body, in connection with the necessary spring action, is provided for by the guiding action of the pedestals on sliding blocks in which the axles are carried. Four heavy half-elliptic springs, with thickened ends on the upper laminae, bearing against pillow blocks, support the load. The whole construction is one combining strength with simplicity.

Thirty-six-inch wood wheels, of the artillery type, are used, and are fitted with 6-inch rear and 5-inch front solid rubber tires. A pair of G. E. No. 1004 motors, connected to the rear wheels by double-reduction gearings, furnish power to drive the vehicle at a speed of six miles an hour. Current is derived from forty-four No. 17 M. V. exide cells, disposed in sets of eleven, on four trays. The trays are so

underslung in an angle-iron cradle that they can be removed from either side of the vehicle. Fully charged, the battery will give a radius of twenty-five miles, and, as it can be charged on the regular 110-volt circuit of the company's own power plant, the cost of current is an almost negligible item of the operating expenses. The controller, giving three forward speeds and two reverse, is of the Vehicle Equipment Company's standard direct-connected type, which has previously been described in these columns. Wheel steering is of course employed, the connecting bars being attached to forwardly-extending pivot arms. The wheel-base is about 8 1-2 feet; length over all, 13 1-2 feet, and the tread somewhat wider than standard. Plain bearings are employed throughout. The weight is about 7,500 pounds. A thirty-two candle power incandescent headlight furnishes ample light for running after dark.

Refinement of Motor Design.

Designers of single and double-cylinder motors for automobiles are on their mettle everywhere to turn out a product which may compete with the sweet-running three and four-cylinder engines of the large cars, while yet retaining the simplicity which is its main advantage. The most obvious expedient for equalizing the power impulse of the single and double-cylinder motor consists, of course, in the employment of a heavy or large flywheel, and this feature forms a part of every successful small car in this and other countries, but, aside from this, strong efforts are put forth to balance the reciprocating members of the engines—pistons and connecting rods—as nicely as possible, not merely by counterweights on the rotary parts as in the past, but by introducing new reciprocating parts with opposite motion.

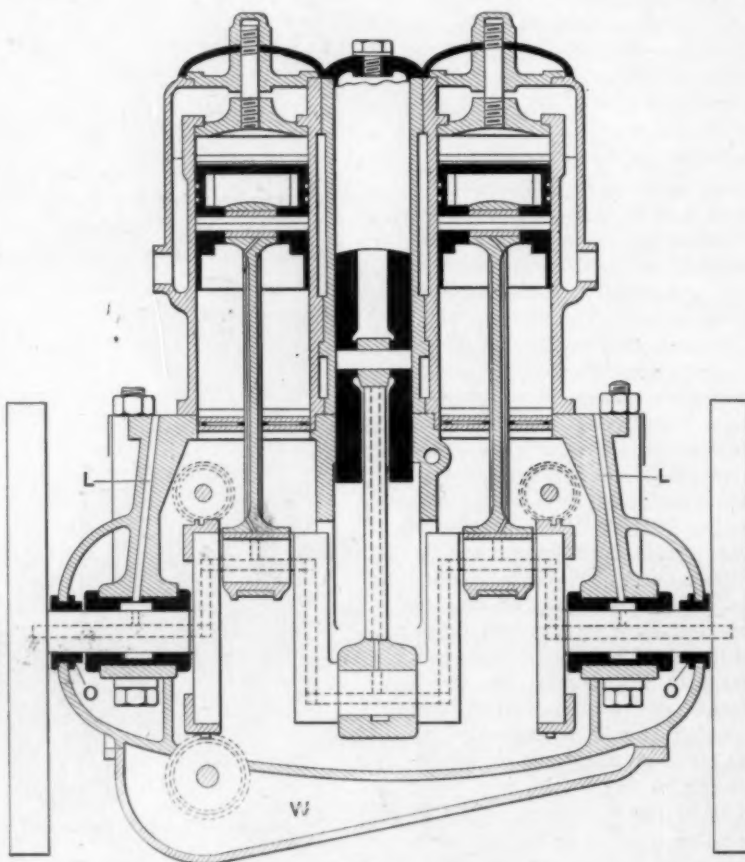
With this end in view De Dion et Bouton in 1901 secured a patent on a single cylinder motor with an auxiliary idle piston to balance the working piston. It was usually considered in the light of a joke on the old firm that it should resort to such means for resisting the modern tendencies in favor of multicylinder motors. But the firm has stuck to its idea, in spite of the improvements in ignition methods and carburation by which the multicylinder motor has come into its rights for high-powered cars. So long as the spark was uncertain and gas mixture not well under control, so long as a trembler was required for each cylinder and carbureters would not feed one cylinder as liberally as another, each additional cylinder was certainly a complication and a promise of trouble, while now the extra fine workmanship required in the four-cylinder motor means only that the smoother running must be paid for in a much higher cost of production. High first cost, however, remains one of the

obstacles to extensive sales which the De Dion et Bouton firm and several other manufacturers have determined to overcome, and hence the efforts for perfecting single and double-cylinder motors continue.

In recent correspondence from Berlin to this publication, dealing with progress shown at the German automobile exhibition, mention was made of the Protos car and Protos delivery wagons, the engines of which were generally noted for noiseless and almost entire freedom from vibration, and it was briefly stated that the latter quality was due to the use of an auxiliary heavy piston balancing the two working pistons. *La France Automobile* now brings an illustration reproduced

shaft, especially its cranked portions, at changes in speed of the motor.

Other special features of this motor may be noticed in the drawing. The three dotted circles represent worm wheels driven from a spiral flange on the periphery of the two outer crank disks, and actuate the cam shaft and the lubricating pump. The straight dotted lines represent oil ducts which are drilled in the shaft, cranks and crank pins and extended by small tubes along the connecting rods to the wrist pins of the pistons and thence to the cylinder walls. The oil is first forced through the leads, *L, L*, in the crank casing to the shaft bearings, which communicate with the drilled oil conduit by transverse holes to the axis of the



VERTICAL SECTION OF NEW DE DION BOUTON BALANCED MOTOR.

herewith, which shows that the De Dion et Bouton firm has developed its original idea on exactly similar lines. The two working cylinders are fired alternately, so that the power stroke in one takes place concurrently with the exhaust stroke in the other. The weight of the balancing piston and its connecting rod is equal to the combined weight of both the motor pistons and their connecting rods, and these two balancing masses move at all times in exactly opposite directions. A still further equalization of stresses is brought about by having two flywheels instead of one, so that the inertia of the moving parts shall not set up unequal stresses at different points of the motor

shaft. As the crank case is practically airtight the exuding of the lubricant at the flywheels is obviated by special oil-guard bearings at *O, O*. Being separated from the crank case by the broad shaft bearings the chamber surrounding these oil guards will be practically unaffected by the alternating compression and rarification of the air in the main casing. *W* is the oil well.

At Ellis Island.

Immigration Agent.—"What is his business?"

Interpreter.—"Says he used to run an automobile across the water."

Agent.—"What a lie!"

Coal Tar As a Road Material.

Obviates Dust and Mud on Macadamized Roads—Saves Road Repairs and is Better than Crude Oil.

Sixty thousand square meters constitute the entire road surface of Monte Carlo, and Prince Albert, the ruler of the little principality of Monaco, where the famous gambling resort is located, has decided that all of this road area shall be tarred. This conclusion was reached after a close inspection, during the Nice automobile festival, of the results obtained by tarring three thousand square meters last September. At that time a similar area had also been treated with crude mineral oil, but all traces of this treatment had disappeared when the inspection was made, while the tarred stretches were still in excellent condition, and the tarring process had proved an even more efficient remedy against the dust nuisance than had been expected.

The tarring process penetrates about one inch into the surface of a macadamized road and leaves a hard and impervious film which protects the road surface against the action of rain and alternating frost and thaw, as well as against the dust-creating action of horses' hoofs and vehicle wheels. After seven months of hard usage the Monte Carlo roads, which have been so treated, still show an unbroken elastic surface, similar to cheap asphalt but superior in affording a good foothold for horses under all conditions

square meter, figuring the price of the tar at \$6 per barrel, which is the maximum



From Bulletin de l'Association Generale Automobile.

SPREADING THE TAR WITH PAIL AND BROOM.

in southern France. At this rate the cost per mile, for a width of 6 yards, amounts to only about \$200, including the labor, the latter being figured on the French scale of wages, however. While it would come higher in this country, so would also

PRECAUTIONS ARE NECESSARY.

On the other hand, certain precautions must be observed in the tarring process in order to obtain these good results. These are stated as follows:

1. The weather should be dry and warm, not only when the tar is spread, but several days before. The moisture absorbed

by the road surface on rainy days is fatal to the formation of a durable crust.

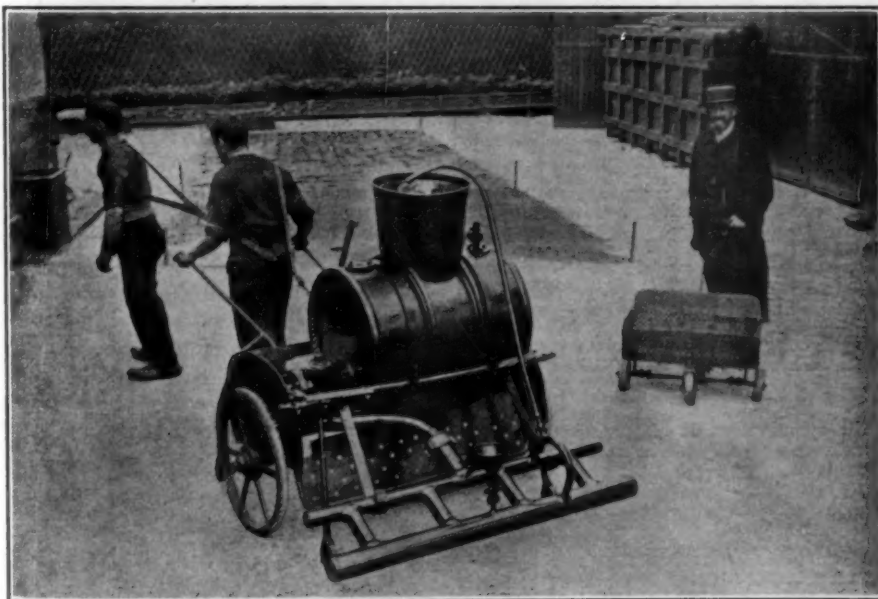
2. The macadamized road should be in first-class condition, freshly stoned and rolled so as to present a hard and very compact surface.

3. The road should be perfectly clean. If it has been in use it is best to wash it liberally with a sprinkler or hose and also to sweep it so as to expose the cut-stone of the macadam directly to the tar; but all the moisture must in such case be evaporated before the tarring is begun.

4. While the tar dries, fine gravel should be strewn over it and rolled under light pressure at once. Traffic may then be admitted at once or the next day.

HOW THE TARRING SYSTEM ORIGINATED.

The General Automobile Association of France has become deeply interested in the tarring of the macadamized highways, and looks to the method as the only practical one devised for the suppression of dust and mud, and of the highest value not only to remove the greatest drawback with which automobilism has to contend, but also for hygienic and economical reasons, the dust of streets and roads being the breeding ground for microbes which, whirled in the air, carry disease to all who are compelled to inhale it, aside from the injury to health caused by mechanical irritation of the mucous membranes from the dust particles. At a conference held after the last Paris automobile show, solely devoted to this subject, and at the recent inspection of the Monaco roads the brief but convincing history of



From Bulletin de l'Association Generale Automobile.

TAR "SPINKLER" WITH REMOVABLE FURNACE.

and causing no skidding of vehicle wheels whether rubber or iron shod.

COST OF THE PROCESS.

Monaco's director of public works, Mr. Gabirau, gives the cost of the process as not exceeding 2½ cents (10 centimes) per

the economy effected in the much reduced cost of road repairs which the tar treatment assures, according to Mr. Gabirau's experience. Not only repairs are much reduced, but also the cost of sprinkling, sweeping and dirt cartage.

oiling and tarring experiments in European countries was submitted to the scrutiny of representative men of all nationalities, and it was the general opinion that the treatment of roads with coal tar and sand was the most promising venture relating to the road question that had ever been called to public attention.

The beginning of the movement is traced to a series of articles by Emile Gautier, a well-known publicist, in 1901, descriptive of the experiments made in California with the application of crude petroleum to dirt roads. The inspiration of the whole agitation which has already assumed the importance of a serious movement in France, Italy and Switzerland, thus came from the United States, but, as so frequently the case, required to be transplanted to Europe before its significance could be realized. And in the transplanting coal tar was substituted for crude oil, though in England heavy Texas oil is still believed to be available.

CALIFORNIA TESTS AVAILED OF.

The articles by Gautier fell in fertile soil with Dr. Guglielminetti, an Italian physician living in Monaco, who immediately comprehended what the California tests might mean for the Côte d'Azur of the Riviera, where the dust curse, since the advent of the automobile, had almost transformed an earthly paradise into a sort of infernal region. His enthusiasm for the idea soon broke into active work and agitation. Every property owner between Nice and Ventimille was first persuaded by the eloquent physician that it was necessary to begin experiments looking to the suppression of the dust evil, whether it were to be done with oil, with tar or with other substances or by other means. Before long every person in public life on the Riviera and thousands of notables in wider circles had become more or less interested in Guglielminetti's plans. The first experiments gave highly encouraging results, and immediately the energetic doctor changed the issue from a local necessity to an international enterprise. Little more than a year after he first touched the subject the agitation had spread from Monaco to Switzerland, France and England. And even in the government circles of France, which are so difficult to shake out of their routine, he succeeded in breaking the ice, so that the Bridge and Road Departments consented to experiment here and there.

At the automobile show in Paris the first fruits of this ardent work were exhibited. The sample stretches of road which had been treated with petroleum, crude oil or tar, could not be taken to the exhibition, of course; neither could the visiting crowds be taken out to see the sample stretches of road so treated, but Guglielminetti had sample pieces of the superficial crusts cut out in the various places and exhibited.

EXHIBITS AT PARIS SHOW.

The visitors saw pretty fragments of oiled roads, smooth and clean as a piece of linoleum. They looked ideal, but in point of cost two factors were against the method. The heavy oil which sells for \$4 per barrel in Texas and California, commands \$9 in London, and, owing to the import duties, from \$45 to \$50 in France. Besides, rain gradually washes away the oiled surface, rendering it necessary to repeat the process too frequently. The



From Bulletin de l'Association Generale Automobile.
GOING OVER TAR WITH SQUEEGEE

fragments of tarred road were not so pretty, but the process was vastly cheaper, and, as explained by Guglielminetti in his conference on the subject, had not only the advantage of greater durability but also suppressed mud as well as dust, while oiled roads gathered a sticky mud during



From Bulletin de l'Association Generale Automobile.
PRIMITIVE FURNACE FOR HEATING TAR.

heavy rains, especially where the lighter oils were employed.

Some details from the paper read on this occasion are of general interest outside of France.

The honor of having invented the coal-tarring process is attributed by Guglielminetti to the French engineer Christophe, who applied the treatment to a road in the Gironde more than twenty years ago, with the result that the local au-

thorities at Saint Gaudens adopted the method for the town streets in 1892 and have extended it since then. In Italy the method was adopted in 1900 by a Mr. Rimini, who added a quick-drying element to the tar and secured a patent for his system, claiming to have invented it.

RUSSIAN PETROLEUM USED.

The heavy residue of Russian petroleum, called mazout or astatki, was employed in several places in France and in the streets of Geneva, Switzerland, in 1902, with excellent temporary results so far as the suppression of dust was concerned, but mud continued to form, and in six to eight weeks it was necessary to repeat the process, where the traffic was heavy, at a cost of 3 to 4 cents per square meter.

In England Rees Jeffreys, the secretary of the Road Improvement Association, oiled a stretch of one kilometer near Farnborough, and the British press was enthusiastic over the results. The injurious effects on the tires of bicycles and automobiles which had been apprehended did not materialize, but Mr. Jeffreys, after all, was not satisfied, because the mud question remained unsolved, and he concluded to await the reports on the tarring experiments in France.

These were not all favorable. The city of Nice undertook to tar the famous promenade des Anglais in October, 1902, when the road was saturated with moisture and the atmospheric conditions also adverse. For five days the coating would not dry, and it never proved as satisfactory as those laid in the warm days of summer.

At Champigny, near Paris, the authorities were induced to take action, trying oil as well as tar, commencing in the beginning of August. Five months later, during the time of the automobile show in December, the tarred stretch, spite of heavy traffic, showed an unbroken surface which had resisted rain, frost and thaw successfully. A public report of this work was given in the *Revue Municipale* last year, confirming the need of the precautions referred to by the director of public works in Monaco and mentioned above.

METHODS OF LAYING TAR.

The mechanical means to be employed for spreading the tar naturally vary with the scale on which experiments are undertaken. The tar must be heated to a temperature of 40 to 60 degrees centigrade. This may be done in any primitive manner, as shown in the last illustration, and the heated tar may be poured on the road from pails holding some five gallons and provided with a flattened spout extending fan-like from the receptacle. Ordinary brooms, first dipped in the hot tar, serve to spread the viscous liquid evenly over the road surface. For more extensive experiments a metal receptacle holding fifty gallons is mounted on a drawcart with a perforated distributing sheet and a sprinkler arrangement adapted for

the consistency of the liquid. An oil furnace, also on wheels, is rolled under the receptacle and is withdrawn as soon as the temperature of 50 degrees has been reached. Once the tar has been spread by these simple devices all that remains to be done, before it is graveled and rolled, is to go over the surface with a very flexible squeegee or similar tools to remove the excess of tar which may have accumulated in hollow places on the road surface.

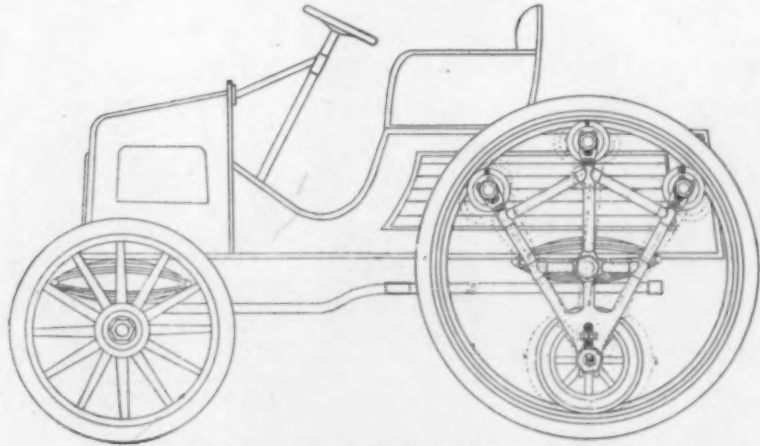
Ring Rail Drive for Motor Vehicles.

The principle of Keller's "road rail ring" vehicle has been applied to a motor bicycle by a Mr. Crowden of Leamington, England, the same engineer who caused the War Office at Aldershot to import and experiment with the Keller tractor machine last year. One of the principal features of this interesting machine, as readers of THE AUTOMOBILE may remember, is that the wheels driven by the motor do not act directly on the road surface but are flanged and run on a circular rail within large spokeless iron rings, while the steering is effected by twisting the rings by means of two small flanged wheels mounted on a frame, there being sufficient play between the ring rail and the wheel flanges to permit this motion. The trials of the tractor proved surprisingly satisfactory to the military authorities as the vehicle was capable of going at high as well as low speed and under perfect control. The tractor was not at all of a pattern suited for the military requirements, but the system of traction by a rail ring carried along as a track for the driving wheels was established as one well worth cultivating.

Prior to the appearance of the German Keller tractor in England, a patent had

Mr. Fackler's patent is shown in the accompanying drawing. It differs from the Keller wheel in the position of the guide wheels, and the American patent says nothing about steering by means of the

road surface it lags relatively to the fly-wheel, which begins to climb inside of the ring until the obstacle is surmounted by gravity, on the same principle as the well-known toy consisting of a hollow cylinder



PACKLER SYSTEM OF RING RAIL TRACTION.

latter. The construction seems at first glance best adapted for heavy trucking over poor roads where the ordinary driving system may be at a disadvantage on slippery or sandy surfaces, and for a class of work in which a conventional appearance is not necessary, but Mr. Crowden has discovered an important virtue in this system for bicycles as well, mainly based on the fact that the shocks and vibration are avoided which have been the bane of chain or gear-driven single cylinder motor bicycles so far.

The driving and guide wheel being elastically mounted on a frame, the motor when started expends its first sudden impulse in overcoming the elastic resistance instead of in racking the cycle frame. Mr. Crowden makes the flywheel of the motor serve as the driving wheel, providing it with a grooved periphery bearing on the

loaded on one side, internally, which climbs a small incline because the weighted portion descends while the whole cylinder rolls upward.

Autos at St. Louis Exhibition.

The Transportation Building, in which the automobile section is to be installed, is the largest of the nine structures forming the fan-shaped main group of the Louisiana Purchase Exposition at St. Louis. The building covers fifteen acres of ground, being 1,300 feet long by 525 feet wide. Every means of transportation, from the most primitive to the modern locomotives, automobiles, carriages and bicycles, will be exhibited in it. A choice location has been reserved for the motor vehicles. The Exposition management is keenly alive to the important



SKETCH OF TRANSPORTATION BUILDING WHERE AUTOMOBILES WILL BE EXHIBITED AT ST. LOUIS WORLD'S FAIR.

been issued in this country to George Nussbaum—and by him assigned to G. G. Fackler of Lorain, Ohio—for a similar driving system and a wheel according to

bottom of the rim or ring, which carries the pneumatic tire. The piston of the motor is coupled to cranks on this flywheel. When the ring meets an obstruction in the

position won by the automobile, and offers inducements that are confidently expected to bring together the largest collection of first class power vehicles ever assembled.

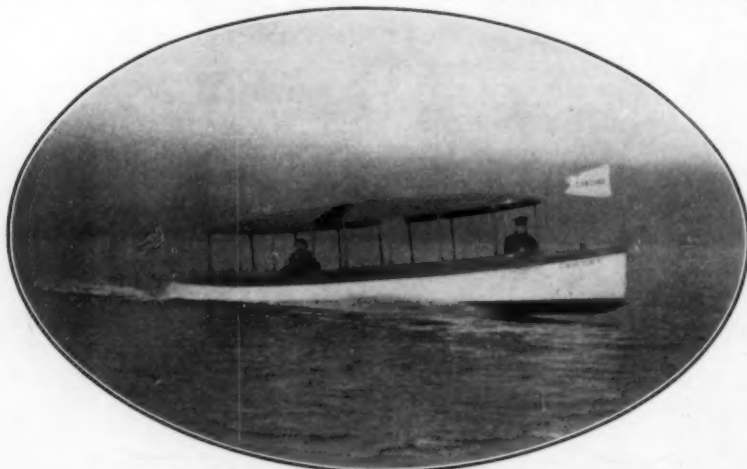
Hasbrouck Racing Launch.

A launch combining seaworthiness with rather exceptional ability in the way of

wide, and will draw 24 inches of water. The boat has fine lines forward and a flat floor running out smoothly to the extent of the overhang. The motive power will

water, the boat apparently being chamfered down to a point aft.

The object of thus beveling the after part of the deck away, down to the water, is to keep people from gathering at the stern or to prevent any weight being placed there. It is a necessary precaution, as these boats settle their sterns in the water when running, and weight in the after part of them reduces their speed. The appearance of the chamfered stern heightens the rakish look of the boat. She is expected to make ten or more miles an hour.



HASBROUCK MOTOR BOAT CRICKET DOING 15 MILES.

speed has been produced by the Hasbrouck Motor Works, of Yonkers, N. Y. The hull, which was designed and built by Thomas Farren, is 35 feet long over all, 5 feet 6 inches beam on the water line, and draws, without the screw, from 10 to 12 inches. The stern is of the torpedo boat form, which has largely displaced all others for speed work, and the keel is inside, leaving the bottom flush.

The engine is of the Hasbrouck build, and has four cylinders 4 1-8 by 6 inches. It turns up to 600 revolutions per minute, and has a 20-inch flywheel weighing 80 pounds. The engine complete, exclusive of the reversing gear, weighs 580 pounds. It has mechanically-operated inlet valves, primary spark advanced by hand and a vaporizer of high efficiency. The propeller was designed by Mr. Farren, and is 17 1-2 inches in diameter, with four blades of 4.2 inches pitch. It is a true screw, but the tips of the blades are bent slightly forward.

Tests of the launch over the old "rowing club mile" course on the Hudson off Yonkers, New York, gave a mean result for consecutive runs up and down stream of 3 3-4 minutes to the mile, or 16 miles an hour. It has covered the mile on the Harlem River, carrying four passengers, against the tide, in 4 1-2 minutes.

Hood Sterns for Small Boats.

The Bridgeport Motor Co. has constructed a speed launch fitted with powerful engines and having a hood stern, which is an exaggerated type of the torpedo boat stern. The torpedo boat stern is all the rage for motor boats in Connecticut this season, completely distancing the round stern, the square stern and the stern of the "common sense" type.

The small Bridgeport launch referred to is 22 feet long, with an overhang at the stern of 4 feet. This makes her in reality 18 feet long. She is 5 feet 6 inches

be a 6 horse power double-cylinder engine. To make the hood stern the designer has begun two feet forward of the



BOW ON AT 16 MILES.

stern post to bevel off the stern of the boat, and, carrying the bevel aft in this way for a distance of six feet, he reaches

Fry & Co., of Ogdensburg, are building a 55-foot twin-screw boat, 7½ foot beam, driven by two 18 horse power engines of the Barbour type, for Peter Duffy, of New York, the piano manufacturer. The speed will be fourteen miles. The same company is also building a 35-foot launch for George F. Robinson, of Pittsburg, who has a summer home in the St. Lawrence. This craft will be fitted with an 18 horse power Barbour engine and will make eighteen miles. The interior is finished in panel work of beautiful design.

Commodore C. F. Happ, of Clayton, has a new boat for this season. She is 38 feet over all, and 7½ feet beam. She will have a half cabin with all modern conveniences and be a staunch, commodious craft. She will have a 12 horse power Barbour engine and will cover ten miles an hour.

H. G. Gould, of Clayton, is building a new boat to take the place of one which



A 12 MILE RATE ON THE MEASURED MILE.

the surface of the water at the time he reaches the end of the overhang stern. This makes an odd looking stern above

he sold last fall. She is 40 feet over all and 7½ feet beam. Many other fine pleasure boats are under construction.

Los Angeles Two-Days' Race Meet Full of Interest.

Special Correspondence.

LOS ANGELES, May 10.—Although the day was not one of California's brightest, a crowd of about 4,000 attended the first day's races of automobiles, motor cycles and bicycles given under the auspices of the Los Angeles Cycle Board of Trade at Agricultural Park track yesterday.

The real interest in the meet developed in the last few days immediately preceding the event, and consequently there were not so many entries as there would have been had the automobile dealers here all put their efforts into the affair from the start to make it a success. But with them, as with a good many individual owners, there was an inclination to "steer clear" of the races, thinking perhaps they would have to compete against some high-g geared racing cars. But there was not one actual racing machine in the whole bunch.

The crowd that assembled at Agricultural Park on Saturday was like some of the big crowds that are wont to attend this track on a big matinee horse-race day. The grandstand was filled and people were lined up below it on both sides of the track for quarter of a mile, while carriages and automobiles filled the space opposite the grandstand and in the field. The big crowd showed its enthusiasm by much cheering and hand-clapping and very few

Frank Garbutt's splendid exhibition in a White steam touring car was the fea-



W. G. HANSEN IN HIS TOURIST—WINNER OF RUNABOUT RACE.

ture of the day. He is a private owner. He not only broke the coast record for five miles, but made the best time ever made by an amateur—7:15. His victory aroused great enthusiasm, and the White

Three races were cut from the programme of ten, for in several events much time was taken up in getting some of the machines ready for racing, and so the race in which Mr. Garbutt shone was the seventh and the last of the day. It was a free-for-all at five miles, for autos weighing 2,000 pounds and over. The entries in

this were Frank Garbutt, Walter Grothe and C. A. Hawkins with White steam machines, H. C. Turner and Ellicott Evans with Peerless gasoline rigs, and J. W. Carhart in a 1902 Winton.

It was a straggling start, by consent. The competitors merely went down the track an eighth of a mile and took a flying start. Garbutt was away first at the start and steamed out to set a hot pace. The others had a fine rear view of his fast red machine as it tore around the track, for he left them behind. Grothe was second, but was beaten by 100 yards to the wire in the first mile and about the same in the second, with the others taking the dust in the rear.

Both Garbutt and Grothe let out a few links in the second mile and after the first turn Grothe steamed up, but Garbutt beat him to the finish, the time being 1:27½. After the second mile Grothe shot ahead, passing Garbutt at the three-eighths pole and led him to the wire by six lengths. But Garbutt pulled up and nipped Grothe just at the wire and they finished the mile together. The others were distanced half a mile.

In the fourth mile Garbutt drew away from Grothe and led him a killing pace to the wire by ten lengths and the big crowd wildly cheered him as he flew past the stand, for he had made the mile in one minute, eighteen seconds. In the last mile he held his advantage over Grothe, although the latter increased his speed down the stretch and was beaten only a few lengths. Faster time could have been



INTERESTED SPECTATORS AT SUNDAY RACES IN LOS ANGELES.

left until the final events had been run off.

Aside from a minor spill in one of the bicycle races nothing occurred to mar the sport, and the day was notable for the breaking of all coast records for automobiles for distances from one to five miles.

Sewing Machine Company was so pleased with his success that it gave him a \$100 silver cup that was intended for the winner of the race for White machines, which was omitted from the programme owing to lateness of the hour.

made, but Garbutt didn't dare to let his rig out and always slowed up on the turns.

The first event was an Australian pur-



GROTHE AND HAWKINS—DEAD HEAT.

suit race for Motorcycles, in which the men started quarter of a mile apart and as one was overtaken he dropped out. The starters were C. W. Ridsen, R. H. Kranz, R. C. Hamlin, W. S. Curran, Clayton White, Sid Boestler, H. M. Shafer, Arthur Burgess, G. E. Richmond, A. Hoxie, F. E. Siefert and F. G. Lacey. The contestants were divided, and in the heat contests Lacey, Hamlin, Kranz and Ridsen qualified for the final. Ridsen's motor did not work well and he withdrew. Lacey started at the wire, Hamlin at the half and Kranz at the three-quarter pole. After two and a half miles, Hamlin overtook Kranz and at the turn was just half a mile behind Lacey. The latter gained an eighth during the next three miles, when Hamlin's motor picked up. Hamlin rapidly gained until at the finish of the tenth mile, he was only twenty-five yards behind. The motors circled the track for the eleventh time, neither gaining nor losing, and the crowd was wild with excitement. During the twelfth mile Hamlin gained foot by foot and passed Lacey just in front of the grandstand at the end of the twelfth mile. The time for the twelve miles was 17:12.

In the two-mile race for steam cars Frank Garbutt, C. A. Hawkins and Walter Grothe entered with White machines, and after an exciting race Grothe won by six lengths from Garbutt, who easily outsteamed Hawkins. The time for the three miles was 3:11 1-2.

FIVE-MILE GASOLINE RACE.

The five-mile race for gasoline cars brought out, as starters, H. C. Turner and Ellicott Evans in Peerless machines, and J. W. Carhart in a 1902 Winton. This was a fairly close race, but after the second mile Turner drew to the front and won easily from Carhart. The time was 8:56 1/2.

For automobiles of 1,500 pounds and under, the entries were Grothe, Garbutt

and Hawkins in White steam machines. F. E. Hughes and H. M. Hanshue in Oldsmobiles, and W. G. Hansen in an Auto Vehicle withdrew on account of having too light machines. Garbutt beat Grothe all the way, the time being 4:28.

NEW RECORD FOR LIGHT CARS.

Not having started in the races in which they were entered, a special event was gotten up for the lighter machines, such as the Olds and Tourist or Auto Vehicle. The Olds won in record-breaking time, making the three miles in 4:56 1/2. The Olds was driven by F. E. Hughes and the Auto Vehicle by W. G. Hansen. The Olds took the lead at the start and kept it until the finish, closely followed by Hansen. By miles the time was 1:41 1/2, 1:36 1/2 and 1:38 1/2. The second mile was the best ever made on the Coast for machines of this class.

In the short intervals between the races, an exhibition of hill-climbing was given. A frame-work had been constructed with



F. A. GARBUTT AND FRITZ LACEY.

a 45 degree incline and a Waverley electric and an Oldsmobile performed stunts on this, going up backwards and forwards and demonstrating what the machines would do, the Olds making the better showing.

HAWKINS' ACCIDENT ON SUNDAY.

What might have been a very serious accident had it occurred an eighth of a mile further down the stretch where hundreds of people were lined up against the fence, happened on the second day before the first mile had been covered in the five-mile handicap, which was the last race on the programme.

C. A. Hawkins, of San Francisco, Pacific Coast manager of the White Automobile Company, had just passed the three-quarter post, having started at the quarter-mile, going about forty-five miles an hour, with 800 pounds of steam, and in changing his steering handle from his left to his right hand, while leaning over in

order to turn a cock or valve, he inadvertently turned his machine to the right, and it crashed into the fence. Those who were looking down the track saw a great cloud of dust and a big black automobile turning complete somersaults. Hawkins shot forward like an arrow and landed about seventy-five feet from the fence. The body of the machine, which was torn from the running gear, struck about ten feet from him, and the wheels and other parts of the machine and fence boards were scattered around as though a tornado had struck the spot. That Hawkins was not killed outright was surely miraculous. People rushed down both sides of the track and it was a wonder some of them were not run over and killed by the machines which were continuing the race as though nothing had happened.

Hawkins was conscious shortly after the accident and Dr. Kisler hurried to his assistance and found that he was not seriously injured. An ambulance was sent for and he was removed to the California Hospital, where it was found, as Dr. Kisler had stated, that his injuries, aside from a contusion on the head and face, were not such as to cause alarm.

The crowd that turned out to see the races Sunday was not as large by 2,000 as that of Saturday, but it was very appreciative and the sport was fully as good as yesterday.

The five-mile motorcycle handicap was especially interesting. Fritz Lacey rode rings around the rest of the starters. R. C. Hamlin and Lacey started at scratch, R. H. Kranz at the 150-yard line, C. W. Ridsen at 200 yards, and Harvey Fuller and Bert Thomas at the seven-furlong pole. Lacey's time for the five miles was 6:30.

The five-mile race for Oldsmobiles was very slow. The starters were S. Skinner, Fritz Lacey, J. Collinge and J. W. Mills.



C. A. HAWKINS DRIVING WHITE CAR.

They finished in the order named, the time for the distance being 11:37.

The fourth race for steam machines had only two entries, Walter Grothe and C. A. Hawkins, both in Whites. Hawkins won



OLDS CLIMBING TEST GRADE.

the first two miles and Grothe the last three, the time for the five miles being 8:52.

A CONTEST FOR GORE.

The sixth event, for gasoline machines under 1,500 pounds, at five miles, brought

and the Tourist is a local production that was beaten by the Olds on Saturday, so this race was for gore, and many bets were made by admiring friends after the first two miles had been run, Hansen leading Hughes from twenty to one hundred feet most of the way. In the stretch, in the final mile, Hughes came up fast and was almost abreast of Hansen, when Hansen's machines seemed to swerve in front of Hughes. Hansen crossed the tape first, the time for the five miles being 7:59. A protest was entered by Hughes.

The seventh event was the five-mile handicap in which Mr. Hawkins met with the accident. In this were entered W. Grothe, C. A. Hawkins, R. A. Collinge and W. G. Hansen. Grothe started at scratch and won in 7:17½.

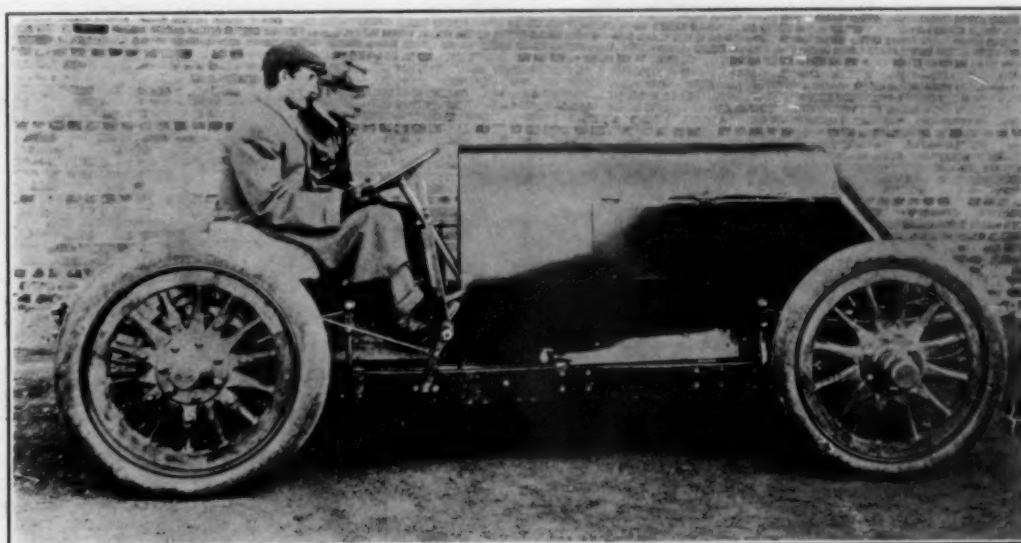
Summaries of both days' events were given in the special telegram published in THE AUTOMOBILE for May 16.

Taking all things into consideration, and aside from the mishap to Hawkins and his

tion to compete for a place on the American Gordon Bennett team. Mr. Harkness failed to turn up at the first or second trials and gave the club committee no opportunity to consider the merits of his car. It was reported at that time, and not denied by Mr. Harkness, that he had made some exceptionally fast time in short distance dashes. As these, if made at all, were in violation of the law of the State, and not timed officially, they could not be considered in connection with the Gordon Bennett race.

Some comment has very naturally been made by motorists as to the absence of photographs and data concerning this car from the pages of the automobile press. It is only fair to the news gathering fraternity to state that this omission was due to no want of enterprise, but solely and entirely to a policy of secretiveness adopted by Mr. Harkness, reaching in our own case to positive discourtesy.

To such an extent was this policy pur-



HENRY S. HARKNESS AT THE WHEEL OF HIS NEW RACING MACHINE.

out W. G. Hansen with a Tourist, and F. E. Hughes in an Olds. This was a very pretty race all the way and the drivers



PRIZE WINNER IN FLORAL PARADE.

were applauded whenever they crossed the tape. The Olds is a prime favorite here

White, the race meet on both days was nicely handled and the races afforded sport of the kind that was never witnessed before by most of those present. The Los Angeles Cycle Board of Trade and F. Alonzo Cook deserve a great deal of credit for the success of the affair.

There was some trouble about classifying the entries, and to avoid this in future it is hoped that the next meet will be held under the auspices of the automobile club.

Mystery Surrounding Harkness Racing Car.

A photograph of the machine Harry S. Harkness, of New York, will drive in the Paris-Madrid race is reproduced herewith. This racing car was constructed in a Brooklyn, N. Y., machine shop, under the personal supervision of the owner, and up to the time of the Long Island eliminating trials it was his inten-

sued that when the car was ready for its trial trip it was fitted with a crude and temporary hood over the engine (shown in the photograph), so that no outsiders could get even a glimpse of the mechanism.

There is some excuse for the policy pursued by Mr. Harkness. He is a very young man, with a very rich father, and has all that self-confidence which the knowing amateur mechanic usually possesses. There would doubtless have been a rush on the part of the professional designers, at home and abroad, to copy the Harkness model if it had been exhibited and explained in detail. Even in this case, however, it is difficult to see how the copyists could have wrought their pirated ideas in metal in time for the great foreign races.

The policy pursued by L. P. Mooers, for example, is in refreshing contrast. At the Long-Island trials the Peerless cars

were minus bonnet or any other method of concealment, and it seemed to give the designer and driver pleasure to explain the methods of construction adopted.

The only details obtainable of the Harkness machine are these: It weighs 2,185 pounds and is fitted with a four-cylinder vertical engine of 100 estimated horse power. Ignition is by make and break system, and the drive gives three speeds forward and reverse, with genuine direct connection on the high speed forward. The wheel-base is 8 feet 6 inches, and length over all 11 feet 10 inches, with 8 1-2 inches clearance above ground. The front wheel tires are 3 1-4 inch, and the rear tires 4 1-2 inches in diameter.

Progress in Birmingham.

Twenty automobiles are owned and used in the progressive southern city of Birmingham, Ala., including a twelve-passenger omnibus built in Birmingham by a Birmingham man and used for the last

Racing Season Will Open in New York at Empire City Track, May 30.

C. G. Wridgway, former long distance bicycle champion of England, and later motor tricycle champion in Europe and America, has been matched to ride a contest against Barney Oldfield, of Detroit, on the Empire City Race Track, New York, at the meet which is being arranged for May 30. Oldfield will use the Ford-Cooper "999" 70 horse power racing car with which he beat the Winton Bullet and the Winton Pup and other cars on the Grosse Point track at Detroit last October, while Wridgway will drive an 80 horse power Peerless like the one L. P. Mooers is building for the Gordon Bennett race. Oldfield is known as one of the most fearless American drivers and with the "999" made track records last fall from two to five miles and has cov-

Entries will close May 25 with Alfred Reeves, Secretary, 5 W. 66th Street, New York, from whom entry blanks can be obtained.

The meet promises to be a large and successful one, as many persons all over the country have been waiting a chance to try out the speed of their machines. R. M. Owen, manager for the Oldsmobile Co. in New York, states that a number of owners of Oldsmobile runabouts have signified their intention of entering the race for machines of this class, and he is trying to secure the use of the Pirate, the 15 horse power special racing machine that was used in the Ormonde-Daytona speed trials and races in March, when it reduced the mile record for machines weighing less than 1,000 pounds from 1:27 3-5 to 1:06,



BIRD'S EYE VIEW OF THE EMPIRE CITY RACING TRACK AT YONKERS, N. Y.

two years by the new Hillman Hotel. The 'bus is driven by electricity and by its economy and durability so impressed Thomas A. Edison that the wizard is reported to have tendered the offer of a lucrative position to its builder, John M. Lansden, who accepted the offer. Among the automobiles owned in Birmingham are a number of Locomobiles, a Toledo, a couple of Wintons, an Oldsmobile and several electrics.

Chief J. P. Quigley, of the Syracuse Fire Department, is taking lessons in an automobile. It is said the department contemplates furnishing him one next year to be used in going to fires.

The Board of Public Service of Toledo is considering the purchase of an automobile to be used in inspecting the progress of work on public improvements. The need of some means of rapid transit was made evident recently during a twenty-five-mile trip through the outskirts of the city for the purpose of viewing proposed water main extensions, which were found to be unnecessary at the present time.

ered a mile on the oval in 1:01 1-4, the best time ever made on a circular course, despite the fact that his Ford-Cooper machine has no differential and no rear springs.

The conditions of the proposed match on the Empire track call for a race in heats, best two in three, at five miles each, the contestants to start at opposite sides of the track and positions to be decided by the toss of a coin. In case of accident to either man or machine in the first mile, the race is to be stopped and restarted.

In addition to this match, the track management has arranged a program of open events for the same day, with silver trophies of full value as prizes. Following are the events:

Five miles for gasoline machines weighing over 1,800 pounds with the Wridgway and Oldfield machines barred; three miles for gasoline machines under 1,800 pounds; one mile open to all types of machines under 1,000 pounds; one mile Oldsmobile class for stock machines; mile record trials open to all; five-mile motor bicycle championship of America.

and the kilometer straightaway record from 59 seconds to :41 4-5.

One of the leading attractions at the meet will be Albert C. Bostwick, the wealthy young enthusiastic motorist, yachtsman and all-around sportsman, who has entered his Mercedes for the time trials at the Empire track on Decoration Day. Mr. Bostwick was the first American to bring the track record near the minute mark, but has not participated in contests for nearly two years owing to poor health. On October 3, 1901, he made a twenty-five mile trial on the Empire track and created world's track records for fourteen out of the twenty-five miles, three of which still stand.

An electric street sprinkler that will lay the dust on ten miles of street an hour has been invented by a leading Parisian engineer, according to a press cable. This automobile machine, which costs only \$3,000, will be able to sprinkle the Champs Elysees and the Avenue du Bois de Boulogne in fifteen minutes. If it proves successful a large number of similar sprinklers will be ordered by the city of Paris.

The suggestion that the day's events be opened by the postponed automobile parade which the New York Trade Association announced its intention of holding after the project was abandoned by the Automobile Club of America, has met with favor and is being considered.

COOPER AND KISER MATCHED FOR INDIANAPOLIS MEET.

Special Correspondence.

INDIANAPOLIS, May 16.—Decoration Day will mark the biggest event in automobile affairs ever held in Indiana. One of the features of the day will be the five mile match race between Tom Cooper, of Detroit, and Earl Kiser, of Dayton. Cooper will speed his "999" car, an exact duplicate of Barney Oldfield's, which holds the world's track record for five miles. Kiser will use his 20 horse power Winton.

Entries for the owners' class race have been made by Carl Fisher, 20 horse power Winton; Charles Somers, 20 horse power Winton; H. O. Smith, 40 horse power Premier; Fred Dickson, 25 horse power Apperson; W. H. Pelter, Fort Wayne, 20 horse power Winton; H. L. Kramer, Attica, 20 horse power Winton, and George Weidy, a 20 horse power Premier. A dozen other owners will enter their machines, but drivers will be engaged to handle them in the races.

There will be six races in all. These will include a five-mile race for machines of 1,000 pounds and under; a five-mile race for all owners of machines in the 2,000 pounds class; a five-mile motor cycle handicap, 1:40 class; a three-mile motor cycle handicap, 1:30 class, and the match race between Cooper and Kiser.

The management expects the entry of fifty contesting machines. No entrance fee is charged.

MAYOR SIGNS SPEED ORDINANCE.

Mayor Bookwalter has signed the automobile speed ordinance fixing the maximum rate within the "mile square" at six miles an hour, and outside that district at twelve miles. The ordinance requires registration at the City Comptroller's office. Each machine must bear a plate with initials of the owner in letters three inches high.

Shortridge high school students expect to organize an automobile club within a week or two patterned after the eastern collegiate clubs. Several of the high school students have electrics and machines are owned by a number of the parents of others, who think a social club can be organized which will be a source of pleasure to the members.

The C. Rossler Manufacturing Co., of Buffalo, recently incorporated, will make engines and supplies for automobiles. Business will be started with \$25,000 capital.

NEW VEHICLES

Mitchell Sr. and Mitchell Jr.

The Mitchell Junior is a little 650-pound runabout, driven by a 4 horse power air-

are operated by pedals. The brake is on the differential.

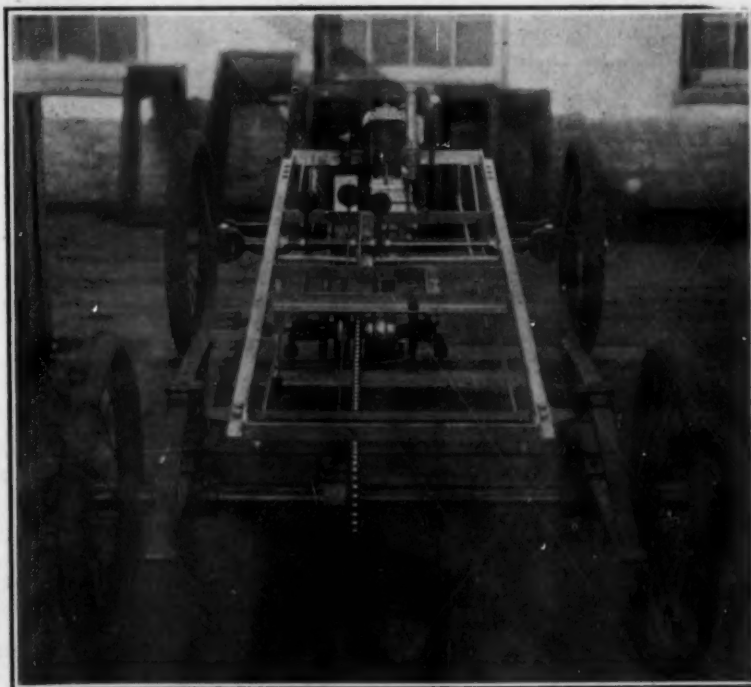
As shown by the photographs of the car with the hood removed and of the chassis alone, the motor is set at an angle of 45 degrees pointing toward the front. It is carried in an angle iron cradle riveted to the front frame member and a



MITCHELL JUNIOR 4-H.P. AIR COOLED MOTORETTE.

cooled motor, but built on the lines of the up-to-date motorette. It is of reachless construction, having a rectangular angle steel frame braced by longitudinal truss rods and carrying the body on four long full elliptic springs. The body has a single broad seat for two passengers and is provided with a bonnet in front, which covers the motor. The wheels are of the

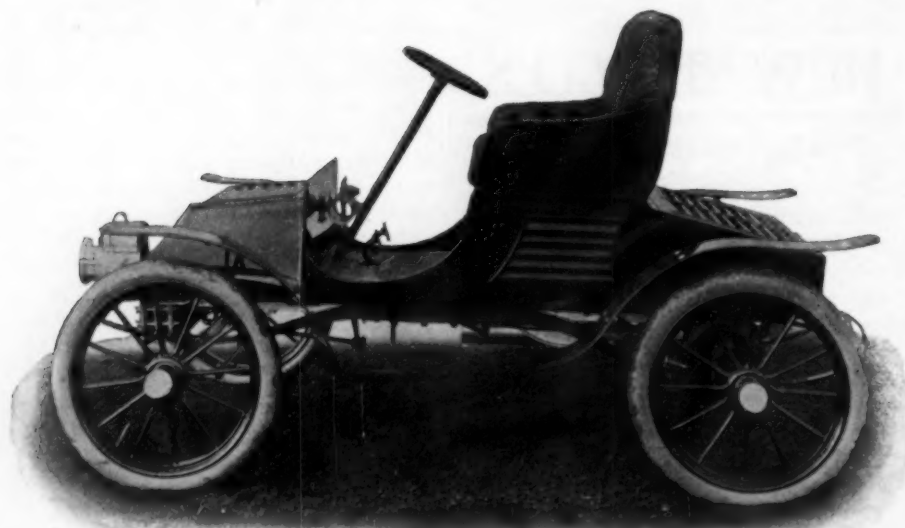
cross-bar under the dash. The cylinder is of 3 5/8-inch bore by 4 1/4-inch stroke, and the crank turns at from 2,000 to 2,200 revolutions per minute. The cooling ribs are copper flanges, except on the head, which is cast with steel flanges on the top of the explosion chamber and on the valve chamber. Cooling is assisted by a fan set close to the cylinder on the left on a



ANGLE IRON CHASSIS OF MITCHELL JUNIOR MOTORETTE.

wire suspension type, 28 inches in diameter and fitted with 2 1/2-inch pneumatics. Steering is by side lever at the left, while the clutch, change speed gears and brake

bracket bolted to the front frame member, and driven by a flat belt from the end of the crank shaft. This fan is geared to very high speed. The flywheel is outside



MITCHELL SENIOR 7-H.P. TWO-CYCLE RUNABOUT.

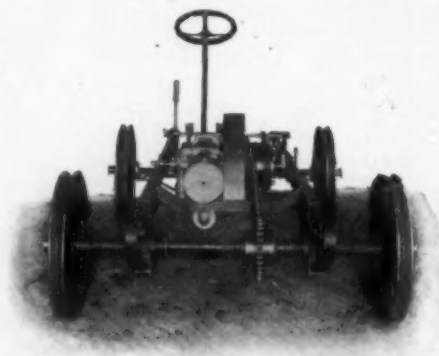
of the crank case, at the left of the motor.

A two-speed planetary transmission system is hung under the middle of the machine from two cross pieces, the motor driving by chain to its counter shaft, and this in turn transmitting by chain to the compensating gear. Distance rods from the rear axle to the middle of the frame maintain the chain tension. The gasoline tank and the battery are placed under the seat, while the carbureter is at the right of the motor and above the crank case. Flow of fuel is regulated by a valve controlled by hand-wheel on the dash. The spark advancer and retarder is also on the dash. Lubrication is from a sight feed oiler attached to the dash. The engine exhausts into a small cylindrical muffler suspended below the motor. The vehicle has a possible speed of twenty miles an hour.

The Mitchell Senior is a heavier and more substantial car, designed to meet all the requirements of the runabout automobile. It has a wheel base of just six feet, a broad comfortably-cushioned seat for two, and is driven by a single cylinder, two-cycle, water cooled motor rated at 7 to 7 1-2 horse power. The engine is placed horizontally at the rear within the body, which is removable from the chassis.

The most novel feature of this car is the construction of the running gear, which, while of the reachless leaf side spring type, has these side springs greatly prolonged to also form the lower portions of fore and aft springs that take the place of the elliptic springs which in other cars support the angle steel frame. The prolonged ends of the springs are recurved upwardly to connect by links with the ends of short leaf springs riveted to the ends of the angle steel side members of the frame, being carried under the rear axle and over the forward axle. The object of the prolongation of the springs is

to eliminate any tendency toward forward pitching due to inequalities of the road and the use of side springs terminating at the axles. The frame is not continuous nor are the side members connected by



REAR VIEW OF MITCHELL SR. CHASSIS.

cross bars at their ends, but the motor and the steering mechanism are supported on cross pieces of angle steel.

Transmission is through planetary change speed gearing on the crank shaft

at the right of the motor and by center chain to the differential.

The two-cycle engine draws the explosive mixture from the carbureter into the closed crank case upon the compression stroke of the piston, and on the explosion stroke forces a charge of it into the cylinder, clearing out the burned gases and exploding on the next stroke. The engine is lubricated from a sight feed oiler on the dash, and a small hand lever at the front of the seat is provided for compression relief.

Control of the slow forward and fast speeds is by a single hand lever at the side of the car, while the reverse is operated by pedal. A tilting hand wheel is employed for steering.

The circulation is forced by pump through a flange radiator under the front end of the car. The water tank and battery are carried under the hood, while the gasoline tank is in the rear portion of the body at the side of the motor.

The seat tips forward on hinges to give ready access to the power plant and transmission.

The driving axle runs on roller bearings under the spring blocks. The wheels are of the artillery pattern, either wood or tubular steel, fitted with detachable tires.

Both the Mitchell cars are made by the Wisconsin Wheel Works, of Racine Junction, Wis.

The Hudson County Board of Freeholders has decided to improve the Belleville turnpike across the Jersey Meadows, in response to the appeals of automobilists in Newark, Montclair, Bloomfield, Arlington and other nearby towns. The work will cost \$55,000, of which one-third will be paid by the State of New Jersey and the other two-thirds by Hudson County. This improvement, which has long been sought for, will give automobilists practically a road of their own across the meadows and shorten the distance from Arlington, Bloomfield and Montclair to the Jersey City-New York ferries by nearly two miles.



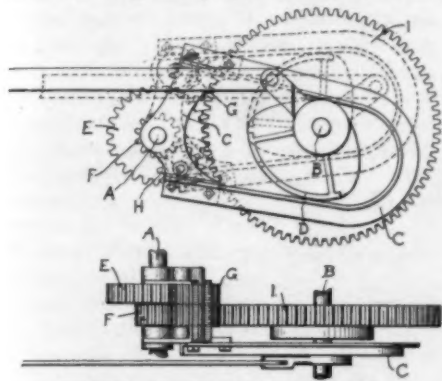
SIDE SPRING CHASSIS OF MITCHELL 7-H.P. RUNABOUT.

Patents

Speed Changing Gear.

No. 727,726.—P. H. White, of Indianapolis, Ind.

A two-speed gear for steam trucks. *A* is the driving shaft, and *B* the driven shaft



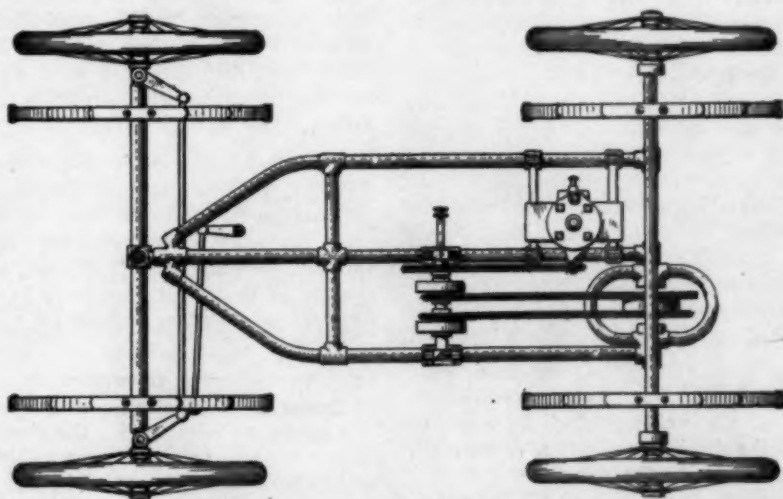
WHITE SPEED CHANGE GEAR.

or rear axle. Frame *C* is made to rock about shaft *A*, being controlled by the cam *D*, loose on *B* and operated by the chauffeur. Pinions *E* and *F*, keyed on *A*, mesh respectively with wide pinion *G* and narrow pinion *H*, both carried on pins in frame *C*, by rocking which up or down one or the other pinion is made to mesh with large gear *I*, thus transmitting the power from *E* or *F* to *I*.

Motor Vehicle.

No. 727,910.—B. V. Covert, of Lockport, N. Y.

An arrangement of the motor and transmission gear, preferably on an under-frame, in which arrangement the motor drives the speed-changing gear by chain, and a chain or chains transmit the power to the rear axle, and the motor and speed-



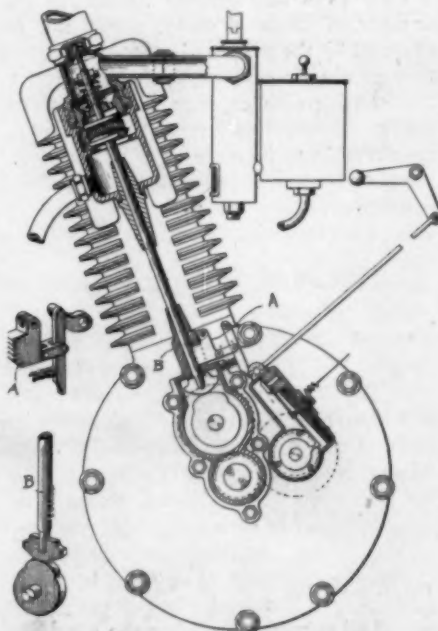
COVERT MOTOR CAR CONSTRUCTION.

changing gear are so mounted on the frame as to be adjustable separately or together for the purpose of tightening the chain. The drawing shows a preferred arrangement to this end.

Controlling Mechanism for Motor Cycles.

No. 727,944.—C. O. Hedstrom, of Portland, Conn.

A mechanism combining regulation of the spark and control of the exhaust valve in one operation, the exhaust valve being undisturbed till the spark is retarded (for the purpose of slowing down the motor) to the utmost, when a further movement of the control lever acts to hold the exhaust valve open. In the form shown, the spark cam is worked by a separate gear, to reduce the width of the



HEDSTROM MOTOR-CYCLE MECHANISM.

crank case, and the case containing the trembler is rotated in the usual manner. A toothed latch *A*, held in normal disengagement by a spring, engages teeth on

Carbureter and Throttle Valve.

No. 727,972.—G. Kingston, of Kokomo, Ind.

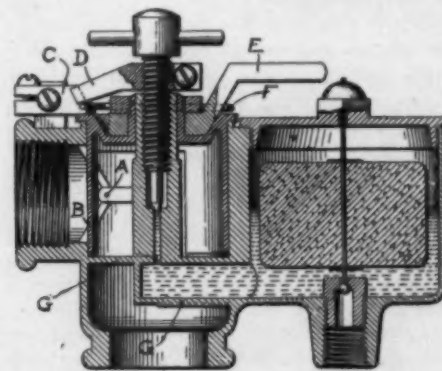
In this device the spraying orifice of the gasoline is brought as close as possible to the point of throttling, which would ordinarily result in an excess of gasoline being taken up by the very sharp air suction on a partly closed throttle. To prevent this, a threaded needle valve is so connected to the throttle as to reduce the gasoline flow in proportion as the throttle is closed. As this results in a mechanical regulation of both air and gasoline, it is claimed that, when the thread and point of the needle valve are suitably proportioned, the mixture will vary very little through a wide range of throttling.

In the cut, *A* is the spraying orifice, connected by a short tube with the vertical duct containing the needle valve, at a point just above the latter. *B* is the air or throttle valve, which works over a V shaped port as shown. *C* is a lug cast on *B*, and carrying an adjustable screw stop to fix the opening for the slowest engine speed. A forked piece *D* engages *C* loosely, and may be clamped to the needle valve after the proper adjustment has been found, thus compelling *B* and the needle valve to turn together. *E* is a handle, adjustable by a lock nut to any convenient position, by which to rotate *B*; and *F* is a spring arranged to bring *B* to the slow-speed position when released. *GG* are baffle plates in the form of semi-disks, intended as a silencer for the suction.

Ignition System.

No. 727,566.—V. G. Apple, of Dayton, Ohio.

A system comprising a dynamo and two sets of batteries, with a two-throw switch



KINGSTON CARBURETER.

so that one set of cells is always being charged while the other is being used; the arrangement being to reverse frequently the polarity of the sparking current in order to preserve the spark points from unequal pitting by the current.

A company with a capital of \$500,000 has been organized in Adrian, Mich., to manufacture motor trucks and similar vehicles under the patents of F. E. Schoonmaker.

Proposed Amendments to American Automobile Association Constitution.

A special meeting of the American Automobile Association will be held at the headquarters of the association, 753 Fifth Avenue, New York city, on Tuesday, June 2, at 4 P. M., for the purpose of amending the by-laws so as to admit to membership in the association individual owners and others not members of any club.

The following proposed amendments to the constitution and by-laws will be voted upon:

Amend Article IV of the constitution, on "membership," to read as follows. "American automobile clubs exclusively devoted to automobiling, individual owners and those in any way interested in the sport shall be eligible for membership."

Amend Article VI of the constitution, on "basis of representation," to read as follows: "Each club shall be represented by one or more delegates who shall be entitled to one vote for each active, associate and life member of the club represented, but no club shall be represented by proxy. Each individual member shall be entitled to one vote at any regular or special meeting of the Association."

Amend Chapter IX of the by-laws, on "entrance fees and dues," by inserting the following clause: "The dues for individual members shall be \$1.00 per annum, payable in advance on the first day of April in each year."

At the same meeting the amended racing rules adopted by the executive committee will also be submitted to approval and sanction by the membership of the association.

The amendment to the constitution and by-laws, as proposed by the committee which has had charge of this matter since the resolution was passed last year, in favor of admitting individuals to membership, would leave many traces of conflicting intentions in the laws of the association.

Section 2, article 3, of the constitution would continue to state that "The A. A. A. shall be essentially an association of clubs, etc." Section 2, article 7, would leave it doubtful how new amendments of the constitution could be effected, or would leave individual members without influence in this respect. Section 1, chapter 2, of the by-laws, would read, with reference to annual meetings, that "Notice of the time and place of holding same shall be sent to each club at least 30 days prior thereto," but would say nothing of notice to individual members. In the same manner "five clubs shall constitute a quorum" (sec. 3, ch. 2) and clubs in arrears for dues shall be excluded from voting at elections (sec. 1, ch. 3), but nothing is said about individual members in arrears. Section 2, ch. 5 demands that

"the Board of Directors shall (a) keep minutes of their proceedings and transmit a copy of such minutes to each member of the association" and "(b) cause the annual report of the treasurer, duly audited as hereinafter provided, to be promptly sent to each member of the association." These clauses, formed with a view to a membership limited to the number of affiliated clubs, would not be changed by the proposed amendments, yet they might become very onerous or entail considerable expense for printed reports of minutes, were the individual membership to increase as rapidly as contemplated when it was resolved to admit individuals.

Amended Racing Rules,

1. **Sanctions.** Any person, association or club (hereinafter referred to as the Promoter) desiring to hold a race or races under the rules of the American Automobile Association, shall first obtain a sanction from the Chairman of the Racing Board. No announcement of such a race or races shall be made until such sanction shall have been obtained. Infraction of this rule shall perpetually disbar the offending Promoter from obtaining a sanction from the Racing Board.
2. **Applications** The application for such sanction shall be made to the Secretary of the Racing Board and shall be accompanied by a fee of fifty dollars for non members of the American Automobile Association, or ten dollars for members, and shall set forth the name and address of the Promoter; a schedule of the events and distances; the number and value of the prizes; the amount of the entry fees and details of the course. If the event is to be run on the road the Board may require evidence of the permission of the proper legal authorities. The Racing Board may refuse a sanction without assigning a reason for such refusal.
3. **No Changes** After a sanction shall have been granted no change shall be made in any of the details required to be set forth in the application for same.
4. **Transgression** No sanction shall be granted to a Promoter who shall have previously transgressed the racing rules of the American Automobile Association, or permitted another to transgress them at a meeting under his management.

ENTRY BLANKS.

5. **Entry Blank** On receipt of a sanction the Promoter shall prepare an entry blank, which shall show the details set forth in Rule 2; the date of the closing of the entries; the address to which entries must be sent; and which shall require the entrant to supply the name of the operator; the machine he will drive; the name of the maker; the motive power; the weight, supplies included; the number of cylinders; the rated horse power; and the date of mailing the entry. It shall bear upon its face the words, "Under the rules, and with the sanction of the Racing Board of the American Automobile Association." A copy of the entry blank shall, immediately upon its issue, be forwarded to the chairman of the Racing Board. A copy of these rules shall be sent by the Promoter to every entrant.

ENTRIES.

6. **Entries** The acceptance of the entries shall be limited to those persons who have not, since the first day of January, 1903, taken part in any automobile race or a climbing test not sanctioned by the Racing Board of the American Automobile Association; and who have never knowingly competed with a person who is not eligible under the rulings of the Racing Board; who agree, by their signatures to the entry blank, to recognize the jurisdiction of the Racing Board of the American Automobile Association in racing matters; and who have not been debarred from competition in events over which the American Automobile Association or the governing bodies of other nations have jurisdiction. The act of competing at an unsanctioned meeting, or in an unsanctioned event, shall disqualify without further action of the Racing Board, and such disqualification shall remain in effect until removed by formal action of the Racing Board.
7. **Car and Operator** An entry shall consist of a combination of operator and car, the latter being described at the time of the entry. No change of car shall be permitted after an entry has been filed, nor of operator without the consent of the Referee.
8. **Receipt of Entries** No entry shall be accepted after midnight of the day set for the closing of entries; no entry shall be accepted unless accompanied by the entry fee and all the details required to be set forth in the entry blank. The acceptance of an entry under other conditions shall be sufficient reason for the refusal of a subsequent sanction to the offending Promoter.

9. **Assumed Name** An entry under an assumed name or failure to supply correct information in an entry blank shall result in disqualification.

10. **Failure to Start** A person who enters and once fails to start may, after having been warned by the Racing Board for a subsequent offense, be suspended for any term not exceeding three months, and in the event of a repetition of the offense be suspended for the remainder of the season.

11. Competitors shall be responsible for all damages—civil or criminal.

CLASSIFICATION.

12. Motor cars shall be classified as follows:

A. (1) All weights and motive powers, no restrictions as to operators.

(2) All weights, supplies included, under 1,200 lbs., all motive powers, no restrictions as to operators.

B. (1) All weights, steam, gasoline, electricity, other motive powers.

(2) All weights, supplies included, under 1,800 lbs., steam, gasoline, electricity, other motive powers.

(3) All weights, supplies included, under 1,200 lbs., steam, gasoline, electricity, other motive powers.

(4) All weights, supplies included, under 800 lbs., steam, gasoline, electricity, other motive powers.

13. To be eligible for competition in Class B, except mile straight aways, cars must be equipped with double acting brakes, compensating and reversing devices, body and hood sufficient to cover mechanism and provide accommodation for one person alongside of the operator.

14. In all events under Class B, cars may be classified as to motive powers (steam, gasoline, electricity) as well as to weights.

15. **Automobile Motor Car, Car** An automobile, motor car or car within the meaning of these rules, is a four wheeled track or road vehicle propelled by self-contained mechanical means.

OFFICERS.

16. **Referee** The principal officer of a meeting shall be a Referee, whose duty it shall be to exercise general supervision over the affairs of the meeting and to act as the representative of the Racing Board. He shall, if necessary, assign the judges, timers, umpires, clerk of the course, and

starter to their respective positions and instruct them as to the rules. He shall receive all protests and render decisions thereon, subject to appeal to the Racing Board. It shall be his duty to enforce the rules and make a full report to the Chairman of the Racing Board of transgressions thereof either by promoters, contestants or officials.

17. **Judges** There shall be three Judges whose position shall be on, or at the edge of the track, two at one end and one at the opposite end of the tape. The numbers of the placed cars shall be taken, one each by the three Judges respectively. The decision of the Judges as to the order of finishing shall be final. The judging of the cars shall be determined by the instant of contact of the tires of the front wheels with the tape.

18. **Timers** There shall be three Timekeepers whose sole duty it shall be to accurately calculate, report and record the elapsed time of placed contestants. In the event of disagreement of the watches, two agreeing, their time shall be official. Should all the watches disagree, the middle time shall be official. In a time handicap the time shall be taken from the start of the scratch contestant.

19. **Clerk of the Course** There shall be a Clerk of the Course, with as many assistants as may be necessary. It shall be his duty to notify competitors, in due time, of the events in which they are entered; see to the arrival of the competitors at the starting point on time and to place them in their respective positions.

20. **Starter** It shall be the duty of the Starter, after he has been advised by the Clerk of the Course that the contestants are ready, to ascertain that the Timers are ready and then give the signal to start by firing a pistol. He shall have absolute control of the competitors from the time they are reported by the Clerk of the Course until the start has taken place. In the event of a flying start, the Starter alone shall have power to decide what is a fair start and may use a flag instead of a pistol as a signal to the contestants to start, having previously warned the Timers of his intention to do so.

21. **Umpires** There shall be two or more Umpires, whose duty it shall be to take positions assigned them by the Referee, to note carefully the progress of the race and be prepared to report upon claims of unfair driving by contestants.

22. **Track and Stand** No person other than the officials, contestants and one assistant for each contestant shall be allowed upon the track. Contestants and

attendants must leave the track as soon as the event in which they are engaged has ended. The stands are for the use of the Referee and Timers. No other person shall be permitted therein.

23. **Programme Contain** The programme shall bear upon its face the words: "Under the rules and with the sanction of the Racing Board of the American Automobile Association" and shall set forth the distance of each race; description of prizes and their value; a copy of the rule relative to the classification of automobiles for racing; the manner of starting; a list of the names of the officials strictly in accordance with the rules relating to same; and a list of the entrants and their numbers.

THE START.

24. **Starting** In the event of a match race the position of the contestants at the start shall be decided by lot. In open events the positions shall be allotted on the programme, the lowest number taking the inside with at least four feet intervening between hubs. Entries shall be numbered by the Promoter in the order of their receipt. A contestant who fails to respond promptly to the call of the Clerk of the Course shall forfeit his right to his position and shall take the outside. There shall be no delay at the start on account of absentees and no contestant shall be permitted to take a place in the line after contestants have been reported to the Starter by the Clerk of the Course.

25. **Timing Start** The start shall be determined by the instant of contact of the tires of the front wheels with a tape, laid across the track.

26. Starts may be either standing or flying. Due notice of the method must be given on the programme, but in the event of failure to state the method a standing start shall prevail.

27. **Rail** All track races shall be run with the left hand of the operator toward the rail.

28. **Prohibit** The Referee shall have absolute power to prohibit any car which he considers unsafe, unsuitable, or of improper construction to start in any event.

HEATS.

29. **Heats and Final** The Referee may in case there are a larger number of entries than can be safely started in one race, divide the contestants into two or more heats of as nearly equal numbers as possible and a final.

30. **Passengers as Assistants** A competitor may, if he elects, carry one assistant as a passenger. After having been passed by the Clerk of the Course no car shall receive attention at the hands of any person other than the competitor and his assistant.

TRACK RULES.

31. **Track Rules** It shall be the duty of the operator of the leading car to hold the inside as nearly as may be practicable. One contestant overtaking and passing another, must pass on the outside, unless the car in front shall be so far from the inside as to render it safe to pass on the inside. After having passed to the front a competitor shall not take the inside, or cross in front of the competitor passed, unless a lead of a full length has been established, under penalty of disqualification.

32. **Foul Driving** Intentional foul driving shall be punished by disqualification for all subsequent events at the meeting, as well as the event in which the foul practice occurs, and may be punished by the Racing Board by suspension not exceeding six months for the first offence and permanent suspension for a second offence.

33. **Road Rules** In road racing the rules of the road, which require a car to keep to the right when overtaken, shall be observed and a competitor when overtaken must allow as much room as the road permits to his competitor in which to pass.

34. **Leaving Track** A Competitor who leaves the track or road, for any cause must, if he desires to continue the race, start from the point at which he withdrew. A competitor who leaves the track or road, or is unable to continue, in a race run in heats, shall not be allowed to compete in a subsequent heat of the same race.

35. **Demonstrate Ability** The Promoter or the Referee may, if they consider it advisable, require a contestant to demonstrate his ability to properly handle the car he proposes to drive.

36. **Signs or Advertisements** No sign or advertisement of any description other than official designation shall be displayed on a car in any race, whether on road or track.

37. **Signals** In road or track races, the overtaking car must give proper signal by bell or horn.

RECORDS AND TIME TRIALS.

38. **Records** No time shall be accepted as an official record unless taken by at least three Timers, and no private trial shall be recognized unless the Timers shall have been approved in advance by the Racing Board.

39. **Surveyor's Certificate** Claims for records must be accompanied by a surveyor's certificate as to the correctness of the distance measured, if on the track, three feet from the pole, and if on the road, at its center, together with evidence that the course is level.

40. **Intermediate Distances** The fact that a contestant attempts to lower the record for a given distance and fails shall not prevent the acceptance of records at intermediate distances, either standing or flying start, properly attested by the Timers.

41. **Dead Heat** In case of a dead heat the event shall be run again, unless the contestants agree, between themselves, as to the disposition of the prizes.

42. **Walkover** In the event of a walkover it shall be optional with the Referee whether the contestant shall be required to go the whole or part of the distance. The Referee may impose a reasonable time limit.

PROTESTS.

43. **Protests** Protests of every kind must be made to the Referee, within 24 hours of the finish of a race. The complainant must deposit with the Referee a fee of \$10, which shall be forfeited to the Promoter if the protest is not sustained. A protest may be lodged only by a contestant, and once lodged can only be withdrawn by consent of the Racing Board.

44. **Referee's Decision** In the event of a protest relative to classification of a car, or other matter which shall affect the right of a car to start, the Referee may, unless able to render an immediate decision, allow the car to start and render his decision as soon after the event as may be possible.

45. The making or laying of bets shall not be recognized.

46. **Powers of Racing Board** The Racing Board reserves the right to veto the appointment of any official; to select the Timers in private record trials; to assign dates; to inquire into and deal with all matters relating to racing, subject to the rules; to disqualify, either temporarily or permanently, persons guilty of infraction of the rules; to determine who are and who are not eligible to compete; to interpret these rules and to decide any point not covered herein as it may consider advisable.

47. **Amendments** These rules may be amended by the Board of Directors of the American Automobile Association.

GLOSSARY

Automobile	Any four wheeled road or track vehicle propelled by self-contained mechanical means.
Motor Car or Car	Any four wheeled road or track vehicle propelled by self-contained mechanical means.
Racing Board	The Committee representing the American Automobile Association
Promoter	Any Person, Association or Club, who holds a race meet sanctioned by the Racing Board of the American Automobile Association.
Race	A Speed contest either against time or in competition, whether on the track or road, sanctioned by the Racing Board of the American Automobile Association.
Walkover	When but one car entered for an event reports to the Starter.
Prize	The award won by a motor car.
Signal	A warning sound, produced by bell or horn.

Gordon Bennett Cars.

According to the latest reports from the other side the machines which will defend the Gordon Bennett cup will be more powerful than those which took part in the recent British eliminating trials. As will be recalled, Napier machines will defend the cup, one driven by Mr. Edge, one by Mr. Jarrott and the third, probably, by Mr. Stocks. The decision to build larger cars than those which were originally intended for cup defenders is said to have been reached after Mr. Edge made an exhaustive examination of the conditions on the Irish course. He decided that to be on the safe side it would be necessary to have the most powerful cars possible, and it is reported that the latest Napier's will have not less than 100 horse power. As both Messrs. Winton and Mooers have cars of the most powerful type in hand, our team will not likely be handicapped in this score.

Six former professional bicycle riders who are now members of the New York city police force have been made a special detail to enforce the speed regulations for automobiles. They are stationed along Fifth Avenue from Fourteenth Street to the Harlem River. One of them is "Mile-a-Minute" Murphy, who raced a mile in a fraction less than a minute behind an engine on the Long Island Railroad. Each has been provided with a stop watch, so reckless automobile drivers can be timed.

New York's New Automobile Law Signed.

Automobile Associations Propose Defense Against Possible Abuse of Bailey Law—Promoters of the Measure Declare Best Intentions and Promise that Pleasure and Sport Shall Not Suffer.

As had been generally expected, Governor Odell disregarded the remonstrations made before him at the public hearing on May 6 with regard to the Doughty-Bailey anti-automobile bill and affixed his signature to it, thereby making it the law of New York State.

The legislative chambers had shown by their vote on the bill that they considered it reasonable or expedient. The law committee of the Automobile Club of America and its president had declared it acceptable, the governors of the club had voted a resolution declaring it the purpose to attack the law next year, but not now, and a special meeting of members of the club had voted that no action should be taken against it. All the opposition necessarily looked weak and vacillating compared with the determined efforts which had made for putting the bill through, and Governor Odell could not rationally think but that this eleventh hour fight and declamation against the measure represented only the sentiment of the element whom it was the special object of the bill's sponsors to get under control, or that the protests received by him at the hearing signified only a cunning Roorback movement to prevent the enactment of an inconvenient law after the time had passed for formulating a better one.

The reasons for signing the bill must have looked much better and stronger to the Governor than those for vetoing it, granting that he was not personally in position to form a strong opinion on its intrinsic merits.

Great dissatisfaction obtains, however, among the members of the automobile industry, partly because a law has been placed in the statutes which, strictly enforced, might lead to great abuse, but even more because they feel that they were tricked into a passive attitude in a matter seriously affecting their financial interests and one in which it had been intended that they should have a voice. When it was learned that the law was enacted, there was much talk in New York city of taking radical measures for testing its constitutionality and of bringing suits against horse drivers and street car companies for exceeding those speed limits which automobilists would be compelled to observe. Within a few days this sentiment was toned down. The condemnation of the law was no less outspoken, but it became acknowledged that there was no great probability that any community would dare to enforce it, considering the weapons of defense and retaliatory attack

that motorists would have in hand through their associations, if anything flagrantly unjust were done.

ASSOCIATIONS TO WORK TOGETHER.

The National Association of Automobile Manufacturers were to consider the proper line of action at an executive committee meeting Friday, May 22. Interrogated upon the intentions of the association Secretary Harry Unwin stated, that there was no doubt that some line of policy would be mapped out looking to co-operation between the Manufacturers' Association, the trade association of New York and all other clubs and societies directly interested in the matter, "but," said Mr. Unwin, "it is impossible to foretell now just what will be done. President Budlong, I understand, will confer with a number of gentlemen on this subject before our meeting on Friday. There has been talk of testing the constitutionality of the law on the license question, carrying any suitable case to the Supreme Court, if necessary. The time schedules of street car companies have been mentioned, and the fast time made without protest by cabs and other public and private vehicles, not with a view to retaliating against other classes of the population, but to demonstrate the unjust discrimination of the Bailey law against motorists."

LAW DANGEROUS IN VINDICTIVE HANDS.

Percy Owen, the president of the New York Automobile Trade Association, said: "The law was made on Long Island and for Long Island, and personally I don't believe efforts will be made to enforce it anywhere else, or even there. The trade association has no funds for fighting the law, but will co-operate with the Automobile Club and the Manufacturers' Association. I, for my part, have given two weeks of my time to make the injustice of the bill clear to everybody, and now I am kept busy attending to business and preparations for the International Cup race in Ireland. Mr. George Adams will now take care of the interests of the trade association during my absence. But I am as strongly convinced as ever, that the law is highly objectionable. There are 21 ways in which a man can become a criminal according to its provisions, without having had any intention of violating them, and be sent to prison for one year. If you neglect to take out a license within 30 days from May 15 or the time you buy a car, you are forever debarred from obtaining a license, according to the best advice. If this law were enforced it would make us all criminals before long, and I, for my

part, shall not take any drives on Long Island, hereafter. It is not so much the speed limits which are objectionable in themselves. Those gentlemen on Long Island can fix the speed to suit their ideas, for aught I care, but the impossibility of guarding against other violations. Under the circumstances I should think it the best policy now to wait and see how the law will be enforced, before taking strong measures. Some people say that no imprisonment for more than 30 days can be imposed under it, but the law speaks of "imprisonment" without specifying the time, and also declares every violation a misdemeanor. Well, under the Penal Code a misdemeanor may be punished by imprisonment for one year, and I am informed that there is nothing to prevent the Penal Code from being applied."

Opinions expressed by individual trade members generally favored test cases, but with the reservation that it might be just as well to await developments and not court trouble by challenging the strict enforcement of a law which was only intended as a sword of Damocles to be kept hanging over the heads of scorchers until they learned to respect the rights of other users of the highway. "A bad law," was the verdict given in varied wording; "but we have it now, and must make the best of it. Nothing can be gained by making it out worse than it may prove in practice. That would only scare the buying public unnecessarily and hurt our business."

LONG ISLAND PROMISES MODERATION.

The other side of the situation was given by Townsend Scudder, attorney and secretary of the Long Island Highway Protective Association—the "Long Island Highbinders," as a certain professional chauffeur prefers to have them known. In an interview with a *Brooklyn Eagle* reporter this official spoke reassuringly, though somewhat in the spirit as if the law was a new piece of property specially acquired by his association. Said he:

"We shall endeavor to enforce the law intelligently and fairly, in a manner that will give the public the protection desired and yet not interfere with the legitimate pleasure of automobilists. We have no wish to do anything that will deprive chauffeurs, amateur or professional, of any right that is properly theirs. We wish rather to popularize the Bailey law by a just and proper enforcement of it, and we anticipate that result."

WOULD ENCOURAGE THE SPORT.

"The highway commissioners of the several towns and the trustees of incorporated villages will be asked to define, by means of conspicuous signs, the actual built up portions of the different villages, and every effort will be made to give automobilists who wish to do so full opportunity to obey the law. Those who prefer to disregard and defy it will, of course, be arrested and punished. There is, how-

(Continued on page 560.)

THE AUTOMOBILE

VOL. VIII.

NO. 21

Published Every Saturday
by

THE CLASS JOURNAL CO.,

395 BROADWAY NEW YORK CITY
Cable Address - - - Autoland, New York
Long Distance Telephone - 3405 Franklin, N. Y. City

SUBSCRIPTION RATES:

United States, Canada and Mexico, One Year, \$2.00
Other Countries in Postal Union, - One Year, \$3.00To Subscribers—Do not send money by ordinary mail.
Remit by Draft, Post-Office or Express Money Order,
or Register your letter.

FOREIGN SUBSCRIPTION AGENTS:

ENGLAND:—Iliffe & Sons, Limited, 3 St. Bride Street,
Ludgate Circus, London E. C.FRANCE:—Boyeau & Chevillet, 22 Rue de la Banque,
Paris.

GERMANY:—A. Seydel, Mohrenstrasse 9, Berlin.

To Advertisers—Copy or changes in orders for adver-
tisements for the issue of the week following should reach us
not later than Friday.

Copyright, 1903, by The Class Journal Company.

Entered January 2, 1903, at New York, N. Y., as
second-class matter.The Automobile is a consolidation of The Automobile
(monthly) and the Motor Review (weekly).

SATURDAY, MAY 23, 1903.

ANNOUNCEMENT.

Owing to the increasing size of the regular editions of THE AUTOMOBILE, it becomes necessary to have all advertising copy in this office not later than Saturday for the issue of the week following. We take occasion, therefore, to call the special attention of our advertising patrons to this condition, so that their announcements may be kept up to date, and that no disappointment may be caused for want of notice on our part. When proofs are required to be submitted to the advertiser, the copy must be received in this office at least four days earlier.

THE CLASS JOURNAL CO.

CHAUFFEUR REPRESENTS OWNER.

We note that the English Court of Kings Bench gave a decision recently holding the Hon. Robert Beresford liable for a collision in which Beresford's automobile was at fault, being in charge of his chauffeur at the time of the collision. The court overruled his defense that the car was not at the time under his control as the chauffeur had borrowed it to make a visit to friends of his own without Beresford's permission.

It appears to be the rule in this country that a master is not liable for wilful torts committed by a servant outside of the scope of the servant's employment, but it would appear that if the servant operating the master's automobile, being a per-

son selected by the master either from the master's knowledge of or belief in his skill and care, negligently operates such machine, that the presence of the master in the machine is immaterial. If he employs a person who in the operation of the machine is reckless or stupidly negligent, it is in the interest of public policy that he should pay the piper. The principle upon which the employer is held liable is that set forth in the maxim *qui facit per alium facit per se*. That the person whom he employs to operate his machine operates recklessly or operates it at a time he thought it securely in the stable, does not affect the principle, namely, that the master has put some one by his own act in the position of being able to operate the machine along the public highway.

Thus it has been held that the master is not excused where the act of the servant which is complained of was not contemplated, foreseen or intended by him. In the case of *Rounds v. The D. L. & W. R. R. Co.*, 64 N. Y. 129, the Court of Appeals held that a master was liable for the wrongful act of a servant to the injury of a third person without proof that he authorized the particular act, provided that it was shown that the servant was engaged at the time in his master's business, although he had departed from instructions, abused his authority and was reckless in the performance of his duty.

But the Court went further and considered in that case the question interposed by the master by way of defense that the servant was not acting in the line of his employment, but was engaged recklessly in accomplishing his own independent or malicious purpose. The Court held that such a question upon all the facts and circumstances proved, must be left to the jury. This appears to have been done in the English case, and it seems probable that for some time to come at least and while the automobile is looked upon by many, probably by a majority of the public, as a dangerous instrument of pleasure, one who employs a person as chauffeur, putting him in a position of control over his machine and thus affording him an opportunity, through his own oversight or lack of instructions, to operate and run the machine, is, as against the public or any member of the public who is injured by the negligent operating of the machine, liable for his servant's act. The servant is actually in his employ, is enabled by him to commit the wrongful act and assuming the interposition of a defense such as Lord Beresford interposed, it would be for a jury, under proper instructions, to decide the relationship. The rights of the owner are preserved through his being afforded an opportunity to set aside or review the verdict.

Whether in its application to automobile law this principle would be modified by the consideration that an automobile is a

vehicle operated by powerful forces which must be accurately controlled and which control calls for technical and expert knowledge and therefore for extra care in its use upon a public highway, the only result of such modifications would be to increase the likelihood of the owner being held liable to persons injured by the acts of his employee.

If the employee stole the machine, the rule might be different.

CUTTING OUT THE MUFFLER.

A motor bicycle "fan," who was accustomed to ascend a certain hill in his neighborhood without pedaling, not long ago thought to break his already respectable record on this ascent by "cutting out" his muffler. As the muffler was not equipped with a cut-out by its makers a hole was drilled in the side of the exhaust pipe, about midway between the motor and the muffler, and a loose sleeve fitted over it for normal and law-abiding occasions. Imagine, then, the grief and perplexity of the ambitious motor cyclist when, having removed the sleeve from its place over the vent, and having made all other preparations for gaily fracturing the local speed ordinances, he discovered that his wheel would not mount the hill at all with the vent open, though it jogged along at its wonted pace when the sleeve was restored! Doubtless some false friends of the sport might aver that the joy of inflicting volleys of ear puncturing latrations on the unoffending public should have been compensation enough for his disappointment, but not so a kindred soul from the West, who in one of our valued contemporaries informs the troubled one that the rearwardly-directed jets from the muffler exerted a reactive force, on the principle by which those Pacific Islanders described by the Autocrat of the Breakfast Table, propelled themselves backward by sneezing, and more than compensated for the back pressure in the motor cylinder!

Now, we are as far from claiming omniscience as any of our neighbors, but we are willing to bet a good spark plug that if that motor had been subjected to a brake test, with the bicycle standing still, the same phenomenon of lost power would have been observed, and to nearly as great a degree. What happened was that the rush of gases past the hole acted, like the steam in an injector, to draw more air in through that hole, instead of the gases themselves escaping thence. If the hole had been at the end of a straight section of pipe, or if the muffler had been taken off altogether, the result would have been quite different, though, very probably, not a great deal so, as it is not likely that the back pressure of the muffler was in reality very considerable.

POPULAR OPINION.

Judging by results, a large number of persons of all classes and conditions, believe that the ownership of an expensively

built automobile indicates a prodigality of disposition on the part of the purchaser. These folk, with remarkable consistency, believe also that the owner should make amends for his extravagance by increasing the total of his expenditures for their own particular and private benefit. It is a fact that in almost every instance in which a wealthy New Yorker has bought an expensive motor car, and this purchase has been referred to in print, he has thereafter been plagued with requests for money from entire strangers. The writers of begging letters and professional solicitors for charities seem to consider the motorist an easy mark, and immediately begin a campaign to capture some of his superfluous wealth. In one case that recently came to our notice, the purchaser of a foreign car received requests for money which in the aggregate would have taken \$200,000 to satisfy.

In this may be seen a reflection of the opinion held by a large share of the public that the automobile is a fad and a luxury. A man could spend three times the amount he would pay for an automobile on the purchase of a carriage and pair, and outside of his friends, or persons well versed in horseflesh, there would be no comment. It will take the public some time to become educated up to the automobile; to realize that for all serious purposes it is the vehicle of the future, and that the road user for mere luxurious pleasure will in time be the horseman. Witness the present status of the coach and four.

Within the memory of all persons of mature years now living a similar set of conditions have come about in street car operation. The electric car has so far superseded the horse that it is only a wealthy community like New York city that can afford the luxury of the antiquated method of propulsion. Not a day passes in New York but that children, coming to the city on a visit, see for the first time in their lives the now nearly extinct horse-drawn street car.

HEAVY CARS WIN HILL CLIMB IN MINNEAPOLIS.

Special Correspondence.

MINNEAPOLIS, May 16.—The Minneapolis Automobile Club gave its first contest of any kind this afternoon. This was a hill climbing contest on Kenwood Hill, on one of the boulevards. The hill is about a quarter of a mile long, with an average incline of 15 per cent.

The contest was witnessed by a large number of city officials, all of whom were taken to the hill from the city hall in automobiles, forty machines taking part in the preliminary pleasure run, which was followed by another run to the Minikahda Club and to several points of interest.

About 1,500 other persons watched the hill climb. While there is nothing sensational about a contest of this kind, it

proved very interesting, and the conduct of the whole affair was such as to impress the city officials, who are at present wrestling with the speed problem. There were no steam or electric cars in the contest.

The results were as follows:

Class 1	
Operator.	Machine.
L. H. Fawkes, Rambler.....	1:55 1-5
N. E. Brown, Cadillac	1:56
A. F. Pillsbury, Olds.....	2:08
E. J. Phelps, Olds.....	2:13
George P. Case, Cadillac.....	2:20
H. E. Pence, Cadillac.....	2:23 3-5
W. Y. Chute, Rambler.....	2:28 1-5
D. E. Andrews, Cadillac.....	2:30
L. B. Newell, Cadillac.....	2:32 1-5
L. Paulle, Olds.....	2:46
Class 2	
A. W. Strong, Knox.....	1:58
E. J. Phelps, Knox.....	2:04
W. E. Wheeler, Knox.....	2:04 4-5
J. B. Stewart, St. Louis.....	2:19
Dr. W. A. Jones, Knox.....	2:25 1-5
George Doerr, Orient.....	2:27
Willis Walker, Stevens-Duryea..	2:37 1-5
W. M. Adland, Union.....	2:50 3-5

Class 3	
A. T. Rand, Autocar.....	2:21

Class 4	
H. E. Pence, Toledo.....	1:15 1-5
H. P. Watson, Winton.....	1:31 1-5
Alf Pillsbury, Winton.....	1:33
George Christian, Winton.....	1:35 1-5
Charles Pillsbury, Winton.....	1:39
Asa Paine, Winton.....	1:53

Two protests were entered this evening, some members being dissatisfied with the victory of L. H. Fawkes (Rambler) in Class 1. The protest is entered on the ground that the car was not driven by a club member. The Toledo machine that made the best time of the day will also be protested. The claim is made that this

Dates of Forthcoming American and Foreign Events.

May 16-24—Stockholm Automobile Exhibition.
 May 20-21—Commercial Vehicle Trials. Automobile Club of America.
 May 23—Brooklyn Floral Parade. Long Island Automobile Club.
 May 24-26—Paris-Madrid International Race. Speed Section.
 May 25-30—Hanover Alcohol Van Trials. German Agricultural Society.
 May 30—Race Meet at Empire City Track, Yonkers, N. Y.
 May 30—Race meet at Readville Track, Boston, Mass., Auto. Club.
 May 30—Race Meet at Indianapolis.
 May 30—Motor Cycle Hill Climb. New York Motor Cycle Club.
 June 18-20—Automobile Fetes, Paris. Automobile Club of France.
 June 20-21—Circuit des Ardennes. Automobile Club of France.
 July 1—Exhibition at Dublin of Gordon Bennett Race Cars.
 July 2—Gordon Bennett International Race, Ireland. A. C. of G. B. and I.
 July 3-4—Race Meet at Washington. Washington Dealers' Association.
 July 4—International Speed Trials, Phoenix Park, Dublin.
 July 11—International Motor Boat Race for Harmsworth Cup at Queenstown.
 July 19—Circuit de L'Argonne in French Ardennes, 400 kilometers.
 July 25—Winton-Fournier Match Race, Empire Track, Yonkers, N. Y.
 August —Tourist Motor Bicycle Reliability Trials. A. C. of G. B. and I.
 August 5—Winton-Fournier Match Race, Glenville Track, Cleveland.
 August 16—International Races in Switzerland.
 August 30—International Races at Frankfurt-on-Main, Germany.
 September —British 1,000-miles Trials. A. C. of G. B. and I.
 September 6-13—Vienna Week, including Austrian Circuit and Semmering Hill Climb.
 September 11-12—Race Meet at Syracuse. New York State Fair.

car does not belong to a club member but is one used for demonstration. It is also claimed that it was run by a professional operator.

FAREWELL BANQUET TO AMERICAN TEAM BY CLEVELAND CLUB.

CLEVELAND, May 16.—The Cleveland Automobile Club is planning to give a farewell banquet at the Hollenden Hotel on May 26 in honor of the departure for Ireland of the "All Cleveland" American racing team which hopes to bring home the Gordon Bennett trophy. Messrs. Winton, Owen and Mooers will occupy the positions of honor. There will be speeches by prominent members of the Cleveland club and it is probable that a number of leading enthusiasts from other cities will be present.

Americans Qualify for Paris-Madrid.

Among the 314 entrants who have qualified for the Paris-Madrid race, which starts next Sunday, are W. K. Vanderbilt, Jr., Foxhall P. Keene, Clarence Gray Dinsmore, Tod Sloan and W. T. Dannat. Messrs. Vanderbilt, Dinsmore and Sloan qualified on Tuesday, according to cable dispatches to the New York Herald. Much attention was attracted by Mr. Vanderbilt's new racing car, which is of 60 horse power, and with a huge body made pointed at both ends so that it resembles a small submarine boat. On the official scales it weighed 985 kilograms, coming just slightly inside of the 1,000 kilograms limit.

The judges of the Paris-Madrid race have been busy for a week inspecting the contentants' cars, weighing them and establishing conditions. The tourist section of the contest was started May 14, while the speed section will be started at 3 o'clock Sunday morning at Versailles.

(Continued from page 557.)

ever, not the slightest desire on the part of our association to put a ban upon automobiling; we desire, rather, to encourage the sport. All we ask is protection for those who walk and drive.

"I believe that the sane, common sense enforcement of the Bailey law will tend to make it popular among the better class of automobilists. We do not claim that the new law is perfect; on the contrary, we admit it has its defects, due to its being amended in committee. It is now a law of the State, however, and must be enforced, and I believe that if this is done as we propose it shall be few, if any, complaints will be heard.

"The necessity for such a law is clearly apparent. Heretofore many who would have joined the ranks of the automobilists have been deterred from doing so owing to a fear of accident.

"Under the Bailey law there is provision made for speed contests under proper restrictions, and these will, I have no doubt, be authorized from time to time, due care being taken to prevent accidents while they are in progress."

Lyon Bill Passes Illinois Senate.

The Lyon automobile bill limiting speed throughout the State to twelve miles an hour, both in cities and in the open country, except within the limits of incorporated cities where a higher rate is expressly permitted by the local authorities, has been passed by the Illinois Senate. It was introduced in the House of Representatives and had already passed that body. A very unusual provision of the bill is contained in section 4, in which it is provided that in any action brought to recover damages either to person or property, caused by running automobiles at a greater rate of speed than twelve miles an hour, the plaintiff shall have been deemed to have made out a *prima facie* case by showing the fact of such injury and that the person driving the automobile was at the time of the injury running the machine at an unlawful speed.

The bill was introduced by Representative Lyon, of Lake County, which is situated on the lake shore north of Chicago. Evanston and other North Shore suburbs of Chicago along the famous Sheridan Road are in Lake County and have for years waged energetic warfare on fast bicycle riders and automobilists.

Chauffeurs' Association Incorporated.

During the week articles of incorporation for the Chauffeurs' Association of America were filed with the Secretary of State at Albany. The directors are: Van Allen Soule, Charles E. Neal, Hiram H. Hill, F. W. Walsh, of New York city, and Samuel Brock, of Brooklyn. A meeting of the new organization will be held at an early date at which officers will be elected.

Routes for Commercial Vehicle Test.

Although the number of entries for the Commercial Vehicle Contest held Wednesday and Thursday this week, was not large, the Automobile Club of Amer-

as may arise from the long and steep gradients on Amsterdam Avenue and, in case of rain, from mud and bad surface on short stretches of unpaved streets, while troubles on the short 10-mile route from the clubhouse to the Battery and return would be expected, if any, from the congested traffic on Broadway.

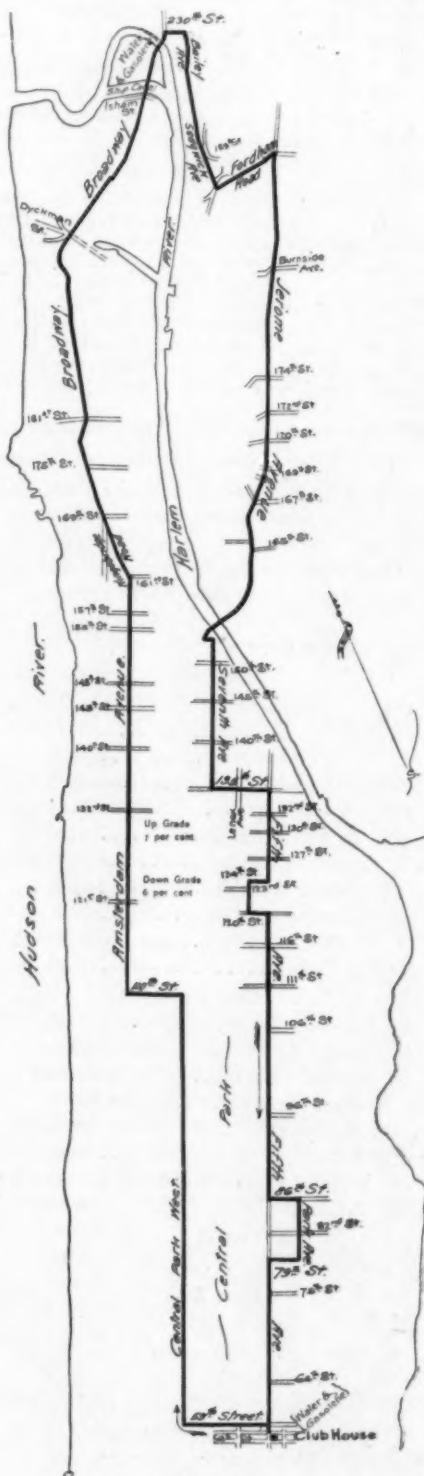
LIST OF STARTERS.

The order of starting from the Club House on Wednesday morning was as follows:

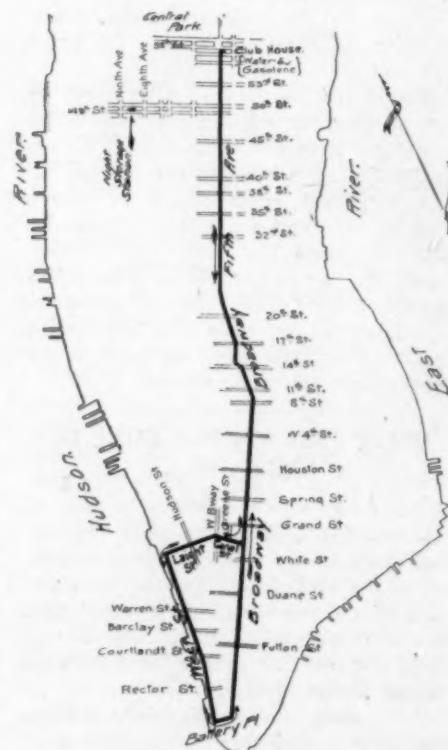
No.	Time	Builder	Power	Weight in lbs. empty
1	9:00	Coulthard	Steam	14,225
12	9:03	Knox Auto Co.	Gasoline	2,070
6	9:06	Herschmann	Steam	14,500
9	9:09	Morgan	Steam	11,160
10	9:12	Mobile	Steam	1,500
11	9:15	Knox	Gasoline	2,300
5	9:18	Waverley	Electric	2,420
7	9:21	Herschmann	Steam	10,225
3	9:28	Union M. T.	Gasoline	4,525
2	9:32	Union M. T.	Gasoline	5,810
14	9:46	Blaisdell	Steam	3,530

An account of the performances of the vehicles will be given next week.

Certificate of incorporation of the Moakler Automobile Co. has been filed in Washington, D. C., by John W. Moakler and Alfred Gould, of New York city.



First Stage.



Second and Third Stages.

ROUTES OF COMMERCIAL VEHICLES IN A. C. A. CONTEST.

ica issued its customary charts of the routes, as shown in the accompanying two engravings on a reduced scale. The long route covers a distance of 20 miles and the difficulties it presents are mostly such

and John J. Nelligan, William C. Dashiel and John N. McClintock, of Washington. The capital stock is stated to be \$300,000. The principal office and place of business of the corporation will be in Washington.

MOVES FOR AND AGAINST LICENSE ORDINANCE IN CHICAGO.

Special Correspondence.

CHICAGO, May 18.—It looks as if the efforts of Chicago automobilists to prevent unfavorable legislation by the City Council were to fail. The judiciary committee of the council has reported favorably the numbering ordinance in the hope of defeating which a ride and a banquet were given the Aldermanic committee by members of the Chicago Automobile Club during the show last winter. The banquet, as Mayor Harrison predicted, had the effect of only postponing matters.

The ordinance reported is similar to the measure bitterly opposed by the club last fall and vetoed by Mayor Harrison, with the exception that the numbers, which are to be five inches high, are to be in Arabic instead of Roman figures. It provides that all motor vehicles be furnished with these signs, bearing the number of the operator's license in figures five inches high, five-eighths of an inch thick, with a space of three-eighths of an inch between, in white upon a black background. From sunset to day-break a red light must be displayed at the rear of the vehicle in addition to the usual front lights, and a white light is to be cast over the sign.

For the purpose of insuring identification, the machines are divided into two classes: Class A, which includes private cars, and Class B, embracing public vehicles. The former will display the license numbers of their operators, and the latter, in addition to this, will display letters designating the owners.

The ordinance was presented to the committee by a subcommittee consisting of Aldermen Foreman, Dever and Honore Palmer, ex-president of the Chicago Automobile Club.

The licenses issued this year have been numbered with a view to the passage of a numbering ordinance, so no readjustment of them will be necessary. The ordinance will go into effect as soon as it has passed the council, been signed by the Mayor and printed. It is expected that the council will pass it, as ordinances reported favorably by committees are usually adopted.

At the last meeting of the Chicago Automobile Club there was much discussion of the ordinance, all the members being opposed to the measure. Many hoped that A. C. Banker, who was suspended by the club and who sued for an injunction by Judge Hanecy restraining the authorities from interfering with him for running his automobile without a license, would win his suit. A temporary injunction for thirty days was issued by Judge Hanecy on May 7, pending a hearing and decision on a permanent injunction. So the club members are hopeful. President Charles W. Gray said at the meeting: "Mr. Banker's attorneys assure me that they will win his fight and that it will be

decided that the city has no right to license an automobile driver. If that is a fact the ordinance requiring numbers will be a farce. The ordinance says that the number on the machine shall correspond with the number on the license. We will take out no licenses and there will be no numbers."

Dr. Frank H. Davis was elected second vice-president, succeeding Howard H. Gross, who resigned because he had no time to attend to the affairs of the office.

ESSEX COUNTY MOTORISTS TO FORM A NEW CLUB.

Efforts looking to the reorganization of the Automobile Club of New Jersey and the bringing into its folds of many owners who were not satisfied with the conduct of its affairs were made at a recent meeting held in Newark, but resulted in the withdrawal of the president and his followers and a decision to organize a new club to be called the Essex County Automobile Club. A committee consisting of C. R. Hoag, Dr. James R. English, Edgar Sargent, Dr. H. C. Harris and Daniel Pierson, Jr., was appointed to select a president. The office was offered to Messrs. Jenkinson, Pierson and Hoag in turn, but all declined the honor, and the meeting adjourned subject to the call of Chairman R. L. Jenkinson.

A proposed feature of the new club is the legal protection of its members in case of action being brought against any of them for damages. The best counsel will be secured and he will be furnished with funds from the club treasury for the defense. Such protection will be furnished only in cases where the driver was not exceeding the legal speed and the accident was not the result of his fault. It is also proposed to take an active interest in good road legislation and, in time, to provide club quarters in the suburbs where the comforts of club life can be obtained.

Formal organization is to be effected on May 19 in the Board of Trade rooms, the date being set far enough ahead of Decoration Day to permit of arranging for a club run and perhaps an automobile parade on May 30. The new club is to be entirely independent of the trade, the dealers having met and agreed not to accept any offices in the club, and have requested the committee on by-laws to insert a prohibitory clause to such effect. This is done to remove any cause for jealousies.

Reward for Reckless Motorist.

One of the ways in which the Massachusetts Automobile Club has shown its earnestness in the movement to frown down excessive speeding by automobilists has been through the offering of a reward for the apprehension and conviction of an offender. His case was particularly reprehensible, for after running into a team in North Weymouth on Sunday,

May 3, the reckless motorist turned on his power and ran away without stopping to learn that his carelessness had caused serious injuries to one occupant of the horse-drawn outfit. The club, without knowing the motorist, and disgusted with such cowardly conduct, sent out last week through President James T. Soutter, an offer of a reward of \$50 for the identification of the reckless one. This went to all police stations in and near Boston, and while it has failed to be the means of bringing the offender to justice, it has shown the spirit in which the club is willing to act.

Long Island Club Parade.

The Long Island Automobile Club is arranging a floral and decorative parade for Saturday, May 23. The start is to be made at 2 o'clock at the new club rooms and garage of the club at 32 Hanson Place, and the route will be to Greene Avenue, to Clinton Avenue, to Gates Avenue, to Bedford Avenue, to Eastern Parkway, to Prospect Park, to Flatbush Avenue, to Washington Avenue, to Eastern Parkway, to Lincoln Place, to Sixth Avenue, to Flatbush Avenue and back to the clubhouse. The order of procession will be as follows: 1, club president; 2, visitors with ladies; 3, club members with ladies; 4, visitors; 5, club members; 6, undecorated cars.

It is contemplated to give a prize for the best decorated car.

First Club in Canada.

Automobile owners in Hamilton, Ontario, have organized the first automobile club in Canada. The initiative in the matter was taken by J. R. Moodie and Harry B. Greening. Mr. Moodie was the first Hamiltonian to buy an automobile, as he was the first to own a bicycle, and says he will be the first to purchase a flying machine. Fifteen or sixteen motor vehicles are owned in Hamilton, a number of them being touring cars. It is the intention of the new club to promote races and hill-climbing contests next August during Carnival Week, and it is hoped to secure the presence of Alexander Winton, L. P. Mooers and C. W. Matheson.

The new club has elected S. O. Greening president and J. R. Moodie and S. Moodie vice-presidents.

The Automobile Club of America will hold a club run on Decoration Day to the race meet at the Empire City track at Yonkers, starting from the clubhouse at noon. The house privileges of the Empire City Trotting Club will be extended to those participating in the run, and luncheon will be served at the track clubhouse before the start of the first race, which is set for 2 o'clock.

Chicagoan—"You're not allowed to blow an automobile horn in my town."

New Yorker—"Indeed. Would disturb Chicago's, I suppose?"

News and Trade Miscellany.

The Stamford Automobile Co., of Stamford, Delaware County, N. Y., has been incorporated with \$5,000 capital.

The Automobile Co. of New Jersey, at 8 Central Avenue, Newark, has opened branch houses at Brick Church and Montclair, N. J.

The Todd Mfg. Co., of Toledo, Ohio, has secured quarters from the Standard Wire and Iron Works for the purpose of manufacturing automobiles.

Among recent New York State incorporations is that of the Onondaga Automobile Co., of Syracuse, capitalized at \$150,000, with the following directors: G. L. Gridley, G. E. DeLong and J. S. Palmer.

A company for the manufacture of motor vehicles has been formed in Rochester by W. H. Snyder, W. A. Hartzell, W. E. Bonzo, Philip Lee, C. C. Noss and Hartford P. Brown. Mr. Brown was elected president and Mr. Lee secretary.

The number of motor vehicles now owned in Providence, R. I., shows an increase of 75 per cent. over last year, and there are still more than a score of cars to be delivered. Fifteen were delivered last week, including seven different makes.

Automobile policemen will be a development of the near future, thinks Deputy Commissioner of Police Ebstein, of Brooklyn, who says that patrolmen equipped with racing machines will be needed to catch the automobile scorchers.

Alderman Pringle, of Milwaukee, proposes to draw up an ordinance providing for the taxation of vehicles, including automobiles, horse drawn vehicles and bicycles, for the purpose of raising funds for the maintenance of the city streets.

The Syracuse Automobile Club is trying to break up fast driving locally. It will have the ordinance printed on cards and when any complaint is made will send the offender one of these to impress upon his mind that all automobilists should obey the law.

In his quest for the outre, Herr Julius Seeth, of the London Hippodrome, has had a photograph taken of several of his lions in an automobile, with himself at the wheel. The undertaking presented difficulties from which the car suffered considerably.

The Rhode Island Automobile Club is arranging a club run from Providence to the Readville race meet at Boston on May 30. The party will leave the city in the morning and after dinner at a resort within a few miles of the track will attend the meet, returning home in the evening. Race meet talk has already commenced about the club rooms, and there is every indication that the local club will hold its third annual affair at Narragansett Park the latter part of August or early in the fall.

On May 6 the 640th automobile license was taken out in Cleveland for the year of 1903. As Cleveland has a population of approximately 420,000, this makes one automobile to every 656 persons, and, estimating five persons to a family, one machine for every 131 families.

The Duquesne Motor Car Co. is the title of a new company that has been incorporated with \$50,000 capital to manufacture and sell motor vehicles and automobile parts. Directors are A. Harry Howe, Harry G. Johnson, L. Ray Pelletier, John Fraser and John B. Uster.

Trustees of the Charles Evans Cemetery, in Reading, Pa., have issued an edict prohibiting the entrance of automobiles to the grounds, advancing as the reason therefor that should a machine become uncontrollable great damage might be done to the tombstones and monuments.

The police department of Evanston, Chicago's refined northern suburb, have again laid traps for automobilists on the most convenient streets of the town. Policemen with flags and stop watches are stationed at measured distances to time and arrest motorists who drive too fast.

Provision is being made for the storage and repair of many automobiles in the new clubhouse of the Nassau Country Club in Nassau County, Long Island, the hotbed of anti-automobilism, where the Cocks automobile law and most of the drastic provisions of the new Doughty-Bailey bill originated.

The Orange Automobile Exchange and Mfg. Co., of Orange, N. J., has been incorporated with \$50,000 capital, by George J. Althen, Baltis A. Durham and P. Arthur Keller, of Newark. Mr. Althen is president and Mr. Durham secretary. An agency and fully equipped repair and machine shop will be opened this week at the corner of Essex Avenue and Railroad Place, Orange.

A new company has been organized by Frederick Mackle, of Elizabeth, and Andrew C. Thompson, of Plainfield, N. J., to be known as the Mackle-Thompson Automobile Co., to manufacture Mackle-Thompson gasoline automobiles at 855 Magnolia Avenue, Elizabeth. The new car is a light runabout. The company has also secured the agency for the Oldsmobile for Elizabeth, Rahway and Roselle, N. J.

"Business is booming" is the word that comes from Washington, D. C., through the local dealers' association. Five Toledo touring cars, one of them a four-cylinder 24 horse power machine, and several Cadillac runabouts have been bought within ten days from the local agent, and other dealers report many sales not a few of which are attributed directly to the recent Washington automobile show, which the dealers pronounce a great success.

The business of the Pan-American Motor Co., of Mamaroneck, N. Y., and the Automobile Co. of America has been taken over by a new company organized under the name of the Commercial Motor Co.

Nassau County, Long Island, is the first to take advantage of the new automobile law in New York State to secure a reduction of speed, the Board of Supervisors having lost no time after the signing of the Doughty-Bailey bill in adopting an act requiring the speed of automobiles to be reduced to eight miles in villages and hamlets having postoffices, when warning signs have been erected.

The Vehicle Equipment Co., of Waverley, L. I., has incorporated with authorized capital stock of \$3,000,000. The directors named in the application are Martin Conboy, H. T. Mead, Leonard D. Baldwin, C. A. Greene and Henry Schoenherr, of New York. This concern makes the electric commercial trucks that are being used so extensively in New York City.

Nelson P. Baker has been discharged as temporary receiver of the Spaulding Automobile and Motor Co., of Buffalo. The order was issued on the petition of Mr. Baker, who had concluded his duties and stated that he had turned over to Thomas E. Lawrence, trustee in bankruptcy for the company, the sum of \$2,695.99, proceeds realized during his term as receiver. The Spaulding company began voluntary dissolution proceedings some time ago.

The Bouton Automobile Co., organized a year ago by Massachusetts business men and capitalists, has begun operations in a woolen mill in Rumford Falls, Maine. It is reported to have on hand orders for fifty machines. Only ten or a dozen men will be employed at the start. Runabouts and two-seated cars are to be built, at the rate of one a week at the start. They were designed by one Bouton, a cousin of De Dion of the French concern, it is said. It is reported to be very simple and noiseless. Dr. J. A. Nile, of Rumford Falls is president of the company.

Copies of the new Pennsylvania automobile law, which was approved April 23, have been printed and mailed to all the automobile owners in Pennsylvania and prominent motorists in New York, New Jersey and Washington by the committee on legislation of the Automobile Club of Philadelphia, consisting of John S. Muckle, chairman; Select Councilman Henry R. Shoch, Barclay H. Warburton and M. Joseph Pickering. It was through the strenuous efforts of the Philadelphia and Pittsburg automobile clubs that the least obnoxious of the two bills that had been introduced in the Legislature—the Senate bill—was so amended as to be more equitable to automobilists, while at the same time offering sufficient protection to the other users of the highways.